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ORIGINAL LECTURES.

HEAD-INJURIES ACCOMPANIED BY PARALYSIS.

A Clinical Lecture, delivered at Bellevue Hospital.

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GENTLEMEN: The first case which I shall introduce to you this afternoon is that of a child, whom you saw in the clinic last Saturday suffering from complete hemiplegia. If you refer to your notes, you will find that this little boy, three months since, sustained a compound fracture of the skull, by falling from a great height, and that after the depressed bone was elevated the child recovered. During the past few weeks he has not been feeling well, suffering from slight headache, elevation of temperature, and acceleration of pulse. He has lost his accustomed appetite, has become exceedingly irritable, and does not sleep well. The wound upon the head appears unhealthy, and discharges a small quantity of sanious pus. These symptoms have gradually become exaggerated, and have finally resulted in complete hemiplegia, in which condition you saw the child at my last clinic. The history of the case, I then told you, pointed to an intracranial abscess beneath the site of the original wound. That diagnosis was correct, for considerable pus was discharged through the opening made last week. Last Saturday this little fellow was completely paralyzed upon the side opposite to his head-injury. The child has gradually improved daily, and, as you see, can move the leg and the arm, and now the nurse will let him down from her arms, and you observe that he is able to walk out of the clinic, and also to raise his arm sufficiently to seize the hand of the nurse.

This, then, is a typical case of paralysis which was caused by pressure of pus upon the brain, and I will avail myself of this case to base a few remarks upon the question of "Trephining for the Relief of Paralysis in Head-injuries."

You know that in my didactic lectures I told you that compression of the brain with paralysis was due to some kind of pressure, of which *bone*, *pus*, *blood*, *foreign body*, were the chief causes, and you remember that each cause was considered at length with the diagnostic symptoms. In the clinic to-day I will show you cases illustrating these four causes of paralysis, in order forcibly to impress upon your minds the lessons which were then inculcated. I further remarked, in connection with this subject, that at times it was very difficult to establish a correct diagnosis, even with good data to aid and with symptoms well pronounced. Since lecturing to you upon that subject, I have met with a case illustrating in a striking manner the uncertainty and difficulty of making a diagnosis, and I will refer to the patient in the way of a short digression, as the case seems especially pertinent.

A man was struck upon the side of the head two weeks before admission into the Ninety-ninth Street Reception Hospital, and although he was unconscious a few minutes after the blow, he soon regained consciousness and was apparently well for over a week, when he had symptoms very similar to those described in the case of the little boy, who, a week ago, was paralyzed, but to-day has just walked out of the clinic. When the ambulance brought the man to the hospital, he was in coma, and had complete hemiplegia upon the side of the body opposite to the head-injury, the evidences of which were manifest locally, and the fact of the injury was corroborated by the testimony of his friends. The question of abscess of the brain as a result of the head-injury suggested itself to me, considering the hemiplegia and coma following two weeks after a severe blow with a club upon the head. The operation of trephining was indicated, but before deciding upon this step I had the temperature taken and the urine examined. There was slight elevation of temperature, but not sufficient to indicate formation of pus. The urine was heavily loaded with albumen and contained casts. I deferred the operation for these two reasons, and the autopsy upon the following day revealed the wisdom of the course of non-interference, for the case proved to be one of ordinary apoplexy, or hemorrhage into the corpus striatum, occurring incidentally with a severe blow upon the head, which injury perhaps may have acted as an exciting cause to develop the apoplexy.

Thus you see, Gentlemen, that while the history of the case would naturally suggest compression from pressure due to pus as the cause of the hemiplegia, and indicate the use of the trephine, the absence of sufficient elevation of temperature, and the presence of a considerable amount of albumen and casts pointed to another probable cause for the hemiplegia. The case of the little boy and that of the man, from a clinical point of view, are of great interest, as illustrating the principle and impressing the lesson of examining carefully and thoroughly into every case, and of using every means at hand in order to establish a correct diagnosis before attempting any surgical operation upon the head.

These two cases further present for your consideration two of the four causes of paralysis, namely, *pus* and *blood*, and although no operation was indicated to relieve the paralysis in the case where the blood was the cause of the hemiplegia, yet you are not to understand that an operation is not indicated where there is a surface clot in head-injury, and this leads us to the fact that blood may cause paralysis in one case and no operation can be performed, while in another case an operation may relieve the hemiplegia, and the cause still be from pressure of blood.

I will present to you, next, a case in which *bone* was the cause of the paralysis, and which will further afford a most beautiful example of cerebral localization. This patient, whom you all now see, and whom some of you saw when he was trephined, has the following history: He was working in a cellar when a paving-stone fell

upon him from a height of twenty feet, striking him on the head. He was seen by the ambulance surgeon, Dr. Keene, of St. Vincent's Hospital, a few minutes after the injury, when he was found to be quite conscious, but for a minute exhibited clonic convulsions of the left arm. These movements were not afterwards repeated, but were succeeded by chilly sensations. His pulse was regular and about seventy to the minute, his respirations were rapid, and his pupils were normal. There was a contused, lacerated wound over the right side of the head, at about the junction of the parietal with the temporal regions. From this wound there was profuse hemorrhage, and at the bottom of the wound the bone was felt to be markedly depressed. When admitted to the hospital the right pupil was wider than the left, and sluggish in its action; the pulse was slower, about sixty to the minute, and bounding; the respirations were deep and noisy, the extremities were cold, and the patient perfectly conscious. There was partial paralysis of the left arm; he could not flex or extend the elbow, but could, with difficulty, partially abduct the limb from the side. He complained of severe pain in the muscles of the neck, especially on the left side. He was placed immediately under ether and the wound in the scalp was enlarged, which exposed a stellate depressed fracture; the fragments were raised into position, after removing a small portion of bone with the Hey's saw, and sixteen pieces were taken out of the skull from the bottom of the wound. The exposed dura mater was uninjured, and the brain was seen pulsating beneath it. The wound was cleansed and dressed with carbolic lotion, one to forty, and in a short time healed by granulation, with a firm cicatrix. The paralysis at once subsided after the operation, and his temperature, pulse, and respiration remained about normal during convalescence.

This patient is one of the most interesting cases to illustrate paralysis from pressure of bone. The case is highly instructive for this purpose; but when you study it more closely you see at once a rich field of inquiry open to you. It is a case illustrating recent views concerning cerebral localization, and on account of the rarity of these cases and the accuracy of the diagnosis, you will at once perceive that it is one of the few cases recorded of cerebral localization from pressure by bone. Some valuable contributions of this nature are found in Nothnagel's well-known work, *Topische Diagnostik der Gehirnkrankheiten*, Berlin, 1879; also by Ferrier, and the writings of Charcot and Pitres in various French journals. In the *Revue de Médecine* Charcot and Pitres are now publishing a series of most interesting articles. Experiments on animals are much less conclusive as regards the localization of functions in the human brain than are well-observed pathological cases in man. It is established by the researches of Charcot and others, that the motor part of the cerebral cortex in man embraces the central convolutions, the paracentral lobules, and a part of the adjacent convolutions. According to Charcot and Pitres, there are motor centres for the opposite side of the face in the lower part of the central convolutions, particularly of the anterior central; motor centres of the arm in the middle third of the anterior central convolution; and centres for the opposite upper and lower extremities in the paracentral lobule and upper parts of the central convolutions. The separate centres for the opposite lower extremities appear, according to Charcot, to be in the paracentral lobule; but they have not been so accurately determined as those of the upper extremity, because cortical paralysis confined to the lower extremity is very rare. Cortical paralyses may be in the form of total hemiplegia, of associated monoplegias (as paralysis of one arm and of one side of the face), or of pure monoplegias (as paralysis of the arm alone).

The most common example of a pure monoplegia due to cortical lesion is brachial monoplegia, or paralysis of one arm. In brachial monoplegia of cortical origin, the lesion is situated in the middle third of the anterior central convolution. Now, Gentlemen, this case before us, on the table to-day, was one of pure brachial monoplegia. The lesion therefore would be of the middle third of the anterior central convolution. There was no paralysis except that of the left arm. This case before us is one of great value, as showing the importance to a surgeon of the knowledge of recent studies in cerebral localization—also for the clear and precise nature of the symptoms and their strict localization. The ataxia which existed for a short time after the paralysis disappeared was interesting, and was probably due to a temporary disturbance in the nutrition of the motor centres. Upon this brain, which is hardened in nitric acid, you see the exact point of pressure which caused the brachial monoplegia in the brain of the patient, who is here in the clinic to-day.

The fourth and last cause of paralysis from head-injury is due to the presence of a *foreign body*, as a bullet, piece of iron, or any other hard substance which has been driven into the brain. I now show you several such bodies which others and myself have removed, and which foreign bodies have been the cause of paralysis.

This completes the four causes of paralysis from head-injury, but before dismissing this most interesting subject I must avail myself of another case, which I now introduce to you, and which was one of paralysis with no injury of the brain, but an injury to the spinal cord.

This man was brought to the Ninty-ninth Street Reception Hospital by the ambulance on account of an injury sustained by a heavy bank of earth caving in and falling upon his back. He suffered from paralysis of his left leg, and from anæsthesia of his right leg, both of which symptoms occurred shortly, although not immediately, after the accident. His bladder was also paralyzed. I made the diagnosis of spinal hemorrhage, and the history of the case has confirmed the diagnosis. This case illustrates a very interesting and rare form of paralysis, due to an affection involving the spinal cord. This form of paralysis is called spinal hemiplegia, or spinal hemiparaplegia, according as the arm and leg are both affected, or the leg alone is involved. We owe to Brown-Séquard most of our knowledge upon this subject. His conclusions are based upon experiments upon animals, and afford an admirable example of the importance of such experiments. Brown-Séquard has proved that if one lateral half of the spinal cord be cut across in the dorsal or in the lumbar region, there results paralysis of motion in the lower extremity on the same side as the lesion, with loss of sensation, or anæsthesia of the opposite lower extremity. This condition is called hemiparaplegia. If the lesion affected the lateral half of the cord in the cervical region, then the arm and the leg on the side of the lesion are paralyzed, and the condition is called spinal hemiplegia. In the

extremity with paralyzed motion, sensation is intact, or may be even exaggerated (hyperæsthesia).

In the patient before us we found incomplete paralysis or paresis of the left leg, which, however, retained its sensibility, and, in fact, for a few days seemed to be hyperæsthetic. In the opposite leg motion was perfectly normal, but there was marked loss of sensation, although not complete anæsthesia. The loss of sensation was made evident by pricking the skin, and by the use of the æsthesiometer. The case therefore belongs to the class of spinal hemiparaplegias described by Brown-Séquard. These symptoms developed soon after his injury, which was caused, as I have already mentioned, by a bank of earth falling upon his back. We cannot be positive as to the nature of the lesion, but it seems probable that a small hemorrhage occurred in the spinal meninges, and caused pressure upon one lateral half of the cord. This was the diagnosis I made at the time of the accident, and the rapidity of his recovery, as well as the manner of his recovery, would indicate this as the probable lesion, the symptoms disappearing as the blood was removed by absorption. Such cases are extremely rare. They illustrate the important physiological fact that the motor fibres do not cross to any considerable extent in the spinal cord, while the sensory fibres cross throughout the whole course of the cord.

This unique combination of cases, all occurring about the same time, has enabled me to bring before you in a striking and forcible manner the question of trephining in head-injuries associated with paralysis, and also the question of paralysis in injuries of the spinal cord. Spinal hemiparaplegia, from its infrequency, and the group of cases illustrating all the causes of paralysis in head-injuries, form a most important theme for study and reflection, and if they only prove to illustrate the great principles which have been insisted upon in the didactic lectures, of which the clinic to-day is an attempt to impress by illustration, I shall be content with the hour's work; and in concluding this part of the subject let me add that much is yet to be learned in this important domain of surgery, and I trust that the exhibition of these cases will increase your zeal in the study of paralysis arising from surgical causes.

Before dismissing this important surgical topic, there is still one other principle I would like to illustrate. You remember that in my didactic lectures I told you that in compound fractures of the skull, where the trephine is indicated, the prognosis depends not so much upon the extent of the fracture of the bone, as upon the question of the amount of injury done to the contents of the skull. The same surgical axiom holds good in cases of fracture of the pelvis; it is not the fracture of the bone so much as the injury to the pelvic organs which influences the prognosis. To recur to our first proposition, and to strengthen it by several living illustrations, I introduce first to you the patient whom some of you saw operated upon at the Ninety-ninth Street Hospital. This patient, who has kindly consented to come to my clinic to-day, is a man who sustained a compound comminuted fracture of the frontal bone, produced by the kick of a vicious horse. It is sufficient to say that sixty-four pieces of bone were removed from a wound which embraced nearly the entire forehead. Many of these pieces were large, and the extent of the comminution made it necessary for the house-surgeon, Dr. Fergusson, to take away most of the frontal bone. The contents of the brain appeared uninjured, and the man to-day is perfectly well, and is engaged at his usual avocation. The second case is one whom you now see, and from whom thirty pieces of bone have been removed, owing to a compound comminuted fracture of the skull produced by direct violence. In this man's case the contents of the skull were not injured, and this fact made the prognosis good, whereas, otherwise, it would have been most serious.

The third case, which I now show you, is one in which I trephined for persistent headache of six years' duration, and after removing a circular plate of bone over the seat of an old depressed fracture, the symptoms entirely disappeared, and the patient has been entirely free from the severe pain, the cause of which was revealed by the operation to be pachymeningitis externa. There was no injury to the brain itself, and the operation consequently was attended with no danger. These cases, together with others which I have operated upon from time to time, only strengthen the truth of the statement, that, with the dura mater uninjured, and the brain itself undisturbed, the prognosis is always good. In conclusion, it is surprising to learn how many eminent surgeons have been, and are even now, opposed to the use of the trephine. Notwithstanding the favorable results from trephining which you have seen from time to time in this clinic, yet there are surgeons who still decry the operation. In Mr. Gamgee's recent work on the treatment of fractures, one of the most valuable contributions made to the surgery of this subject, and a book which I am sure you will study with great profit and pleasure, you will find a most interesting chapter upon this very question of trephining. He shows that there is still a very wide diversity of opinion among eminent surgeons upon this point, and that while during the last century the trephine was used extensively, Desault, a French surgeon, was the first to oppose its use. Percival Pott, an English surgeon, on the other hand, urged its indiscriminate use. John Hunter, Pott's most illustrious pupil, advocated its use, and there were then two distinct classes—on the one side Desault, John Bell, Astley Cooper, Abernethy, Liston, and others argued against its use; on the other side Pott, Hunter, Guthrie, Brodie, Velpeau, and others argued in its favor. This great controversy influenced in different countries the number of the operations. Thus, during ten years from 1855, there were reported only four cases of trephining in France, while in England during the same period there were reported, according to Le Fort's analysis, one hundred and fifty-seven cases. The late Mr. Callender stated that the trephine had not been used for six years in St. Bartholomew's Hospital, though Mr. Callender was the successor of Percival Pott, through such a lineage as Abernethy, Lawrence, and Paget. This change in the very hospital which was formerly the arena where the trephine was so frequently resorted to, is as strange as it is significant.

When we consider how frequently trephining was performed in very early times, and with success, assuredly in these days surgeons should not hesitate to perform an operation which holds out such good prospect of recovery. During the Stone Age, Prof. Broca has informed us that trephining was practised by the ancients with only pieces of flint, and with these rude instruments they scraped the bone until a disk was removed sufficient

to expose the dura mater. Mr. Blaker, of London, in a very valuable historical contribution says, "considering the class of cases, the desperate nature of the operation, and the barbarous method of performing it, to say nothing of the after-consequences, *e. g.*, hemorrhage, blood-poisoning, erysipelas, the danger of injury to the brain, the want of proper nursing, and bad hygienic surroundings generally, it is wonderful that any one patient recovered; and yet, incredible though it seems to be, Dr. Prunères states that out of twenty skulls in his possession (all of which were trephined during life) nineteen of them exhibit indubitable signs of having recovered from the operation." He further states that these disks of bone were worn as amulets and considered as talismans to ward off disease. Where the patient died, the amulet was attached to the body as a sort of talisman to ward off evil spirits in another world. Prof. Broca adds that this is one of the earliest indications we have recorded in history "of the belief in a life beyond the grave."

Thus you observe, Gentlemen, that the operation which you have witnessed in the clinic is of very great antiquity, and with the resources of modern surgery the operation should be free from danger.

With the great diversity of opinion upon the question of trephining, I am not surprised that many of you are in doubt as to which course to pursue. My advice to you in this matter, as in many other difficult questions in surgery, is to be guided not by history, nor by tradition, nor by single authority, for often these guides mislead and misdirect. History, and tradition, and authority may not be trustworthy guides for you in these great emergencies. Let your actions be governed by the individual circumstances which arise in connection with each particular case. Consider every case by itself, and where the indications which I have already given you are present, trephine; but where they are absent adopt the plan of non-interference. The subject of the manner in which the operation is to be performed will be considered in our demonstrative course upon the cadaver; and now, Gentlemen, I will say no more to-day upon the question of trephining, but leave this subject for you to reflect upon and carefully to study over, in the hope that the few hints which I have given you may awaken a new interest in a surgical theme as trite as it is important, and as difficult as it is fascinating.

ORIGINAL ARTICLES.

ON DIGITAL EXPLORATION OF THE BLADDER IN OBSCURE VESICAL DISEASE;

WITH ITS RESULT IN THIRTY-TWO CASES.

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No one who has had much experience in the treatment of maladies affecting the urinary organs will deny that he occasionally meets with a case, the nature of which, however closely it is studied, is not determined by the ordinary methods of investigation. Nevertheless, it must be conceded that our diagnostic means and appliances are numerous and efficient; and, furthermore, that a large portion of the urinary apparatus may be reached without difficulty and be examined in various ways.

These methods comprise palpation and percussion externally, the use of the sound and catheter internally, and an examination of the characteristic secretion, the urine, physically, chemically, and microscopically.

Extensive as these resources are, a certain proportion of patients, larger perhaps than is generally supposed, receive treatment for long periods of time, such as months or even years, without any satisfactory diagnosis having been made of their cases. Of course, when they are described or referred to, recognized forms of technical phraseology are employed, affecting to indicate, if not clearly to express, the pathological significance of their symptoms. Thus they may be attributed to some affection of the kidneys or to "chronic pyelitis," or to "chronic inflammation and congestion of the bladder," while the specific character of them is sometimes said to be "gouty," an epithet which, manifestly appropriate in some instances, is as manifestly suggestive of uncertain diagnosis in others.

Thirty years of practice have made these facts but too obvious to myself, and for a large part of that term I have diligently labored to cultivate in the classroom and elsewhere a high appreciation of the art of diagnosis, in regard of which I may perhaps be allowed to refer to my clinical lectures, oral and published. But some five or six years ago, I came to the conclusion that, keen and careful as we might be, the cases of urinary disease which defy analysis are so numerous and so important as to demand a further method of investigation than they had hitherto received; and I resolved to make a bold experiment for the purpose of accomplishing it. I determined on searching the bladder, if possible, with the finger itself, when the sound and other means enumerated had failed to inform me, and when the symptoms were so grave as to demand a knowledge of their source, and probably some efficient surgical action, in order to give a chance of life to the patient.

The first question naturally arising was, will it be possible to accomplish this completely in many, or indeed in a moderate proportion, of these obscure cases? There proved to be no difficulty in the dead body: and, with anæsthesia, I thought there ought to be none in the living. And having well considered both the suprapubic and the perineal routes, I adopted the latter, introducing my finger as far as to the internal meatus, by means of a limited perineal urethrotomy, without section of the prostatic urethra, finding that this afforded me an unexpected facility in obtaining that intimate knowledge of the interior of the bladder which I sought.

The operation which I have now so often practised, is simply what I have called it, external or perineal urethrotomy; the well-known incisions, but less extensive, which have long been employed for the division of stricture, etc. An operation practised by our own Richard Wiseman, in the

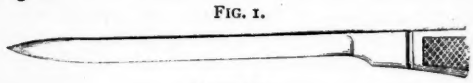
seventeenth century, described also nearly at the same period by François Tolet, and subsequently by Colot, Petit, Ledran, and several others, as the Boutonnière, by which name it has long been familiarly recognized in France.

But my proceeding, almost identical in regard of incision with this (for anatomical conditions being unchanged, new routes to the bladder are not now discoverable), has a new object, and has been proved competent to discover and to treat conditions never so discovered and treated before. It is the object and the achievement of the proceeding which are new, and not the incisions by which they are attained. Further, even the incision would not alone accomplish what is necessary, and could not do so until the discovery of anæsthetic agents enabled us to induce *complete relaxation of the abdominal muscles*, and thus to prosecute an inquiry not otherwise possible.

I will now describe the method which my present experience has led me to adopt, and point out some of those details in prosecuting it which are the most important.

The patient having been secured in the usual position for lithotomy, and rendered insensible, a rather short median-grooved staff is carried into the bladder and held by an assistant. The knife to be employed should be straight, the blade very narrow and about two and three-fourth inches long. *Vide* Fig. 1.

FIG. 1.



Natural size.

With this the operator makes a vertical incision of the skin in the line of the raphé, an inch and a quarter long, and terminating below about a half or three-quarters of an inch above the anus. Placing his left index finger, palmar surface upwards, in the rectum, so as to inform himself of the upper limit of the bowel, he introduces the knife with its cutting edge upwards, horizontally, into the wound until he reaches the groove of the staff, which should thus be struck about the junction of the membranous with the bulbous portion of the urethra. When contact is verified, the puncture of the canal is lengthened a little with the point of the knife, which is then withdrawn, incising in the act perhaps some of the tissues, so as to enlarge the wound towards the external orifice, but avoiding as far as possible injury to the bulb. A director resembling a small median gorget with blunt edges (the size and form of that which I use is drawn in Fig. 2, is passed into the groove of the staff and serves as a guide to the left index, which is insinuated into the

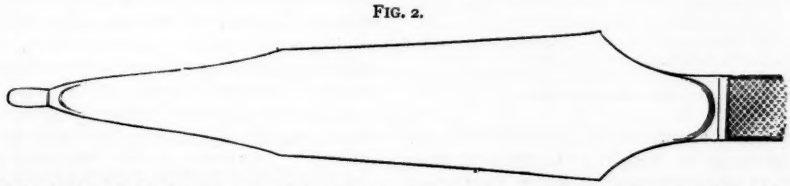
FIG. 3.

The same seen sideways.

prostatic urethra, and gently pressed onwards until the tip, slowly dilating it, enters the neck of the bladder. Arrived at this point, the operator should stand up, demanding the full effect at this moment of the anæsthetic agent, and with his right hand, press very firmly above and behind the pubic symphysis. By concerted movements between the left index finger and the right hand, he may now bring seriatim, every part of the interior of the bladder over the point of the index, and scrutinize the lining membrane so as to learn its physical condition to the minutest particular. If there is the smallest growth, recess, or inequality of any kind, or even roughness, an adhering scale, or small calculus, it is recognized with ease and certainty. Occasionally when the subject is very fat, and the prostate large, considerable pressure is necessary to make the exploration complete, and now and then it may be impossible to reach the whole interior, as I have found in one case only. But if the relaxation of the abdominal walls is absolute, it is surprising how far the contents of the pelvis, with the aid of an assistant, may be, by continued forcible pressure, brought down towards the perineum, and thus within reach of the operator's finger.

If, in the examination of the bladder a growth is encountered, the surgeon should devote two or three minutes to deliberately estimating its exact size, form, and density; its position in the bladder, and whether others are present also. He should do this again after he has reseated himself, with and without suprapubic pressure by his assistant, so as to be thoroughly acquainted with the situation of the growth. Then, withdrawing his finger, he introduces slowly a pair of forceps, straight or curved according to his judgment, to the spot, holding lightly a handle in each hand, when he will almost certainly seize the growth if he be careful and deliberate in his movements; much in the same way as he would in

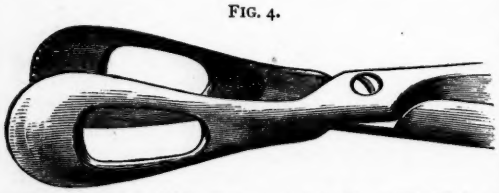
FIG. 2.



Outline of director intended to be of the natural size: but it is erroneously drawn, at least a line too wide at the broader end.

seeking a nasal polypus. Having assured himself that he has a fair hold, he is not to drag or tear out the body, or even much twist the forceps, especially if the material is dense, or he may injure the bladder itself. I find it better to "jamb" or "mash" together (if I may so describe the act) the rough margins of the forceps, before I endeavor to withdraw, and effect separation thus if I can. If this is not easily accomplished, I introduce the left index and complete the separation with the finger-nail if possible, which is sometimes a very efficient instrument. Proceeding thus, partly by forceps, of which I have employed numerous forms (see Figs. 4, 5, 6, and 7), partly with the finger, the removal of the

FIG. 4.



Straight forceps, which meet by serrated edges. The blade of the original instrument measures nearly seven-eighths of an inch wide.

FIG. 5.

Small curved forceps, seen sideways; for growths close to the neck of the bladder.

FIG. 6.

The above forceps, seen from the front, showing separation of the blades to avoid nipping neck of the bladder.

FIG. 7.

Another form of curved forceps for seizing tumors springing from the sides of the bladder. The edges of all the forceps meet by serrated or roughened edge for the purpose of effecting a separation by the action described in the text. I have a duplicate set, the edges of which are cutting, for use with great care where the tissue is particularly firm, and on two occasions I have found them useful. The first named, however, should be employed if possible.

mass may be safely accomplished, entirely so if the growth or growths be simple and pedunculated; less completely when the base is wider, employing the forceps several times, carefully removing as much as possible piece by piece; and but very imperfectly if the tumor is mammillated and not at all pyriform in character. In the female I have sometimes slowly brought it within view, and have put on a ligature.

I think it is not unlikely that a small, slender écraseur, threaded with a flexible wire, stout catgut, or wire gimp, may be useful in some cases where single, but rather wide, peduncles are presented. Such an instrument has been made for me, and can be used by the side of the finger without requiring additional space, since the diameter of the shaft only equals that of a No. 10 catheter (English guage); but I have not used it yet.

There is one source of danger which I would point out, and which must be carefully guarded against. It may happen during the operation, that the assistant is required to press very firmly above the pubes, so as to bring the growth nearer to the operator. By doing so at this stage, it is quite possible that the upper part of the bladder may be inverted and pushed downwards in a fold, presenting itself toward the operator as an eminence, and be mistaken for a large polypus or growth, an error which might be fatal. The possibility of the occurrence should not be lost sight of; hence my admonition above to examine the bladder not only with, but without the influence of pressure, and so as to ascertain precisely what is to be removed before any attempt to do so is commenced. After the removal, whatever the result may be, a stout India-rubber tube about five or six inches long and the diameter of the little finger, is secured in the wound to wash out the débris and to serve as a channel from the bladder to some vessel placed for the purpose. Hemorrhage is usually free for a few hours and gradually subsides. If the tube causes irritation, it may be removed soon; if not, it may remain a day or two.

My entire experience up to this date may be summarized as follows: I have explored the bladder in thirty-two cases of obscure disease; four in the female, twenty-eight in the male, finding and operating for tumor in fifteen cases, two in the female and thirteen in the male. No extension of the incisions described was necessary in any case; in two of the cases (still living) no attempt was made to remove the mass, since the form of it rendered the achievement impossible, salient portions only were taken off. If a tumor, unusually large, demanded either extended incision or a suprapubic opening—but this must be a very rare occurrence—the operation should be thus continued, provided of course that the tumor is so formed as to admit of removal, otherwise extended incision would be unwarrantable. Eight of the cases of tumor are living at the present moment, at periods after the operation ranging between three years and six months. Three died soon after the operation, the others at various terms of several months, from reappearance or secondary malignant growth. Almost all form preparations in the museum of University College.[1]

[1] Twelve of the tumors were exhibited, as well as microscopic sections from them, to illustrate a paper read by the author at the Royal Medical and Chirurgical Society of London, in June, 1883.

In the other cases impacted calculus or other unusual conditions were met with, and the relief in some of them was conspicuous and remarkable. Obstinate chronic cystitis with large deposit of triple phosphates, and associated with frequent catheterism for atonied or obstructed bladder, was greatly relieved in several instances, and is indeed one of those forms of disease in which the proceeding may be often highly serviceable, if the tube is retained for a week or so, the urethra and the bladder being at rest during that period.

This brief summary of my experience warrants me, I think, in believing, and I trust my brethren will agree with me, that the proceeding described will enable us to prolong life in many cases, and to avert disease completely in some, where, without such aid, it must inevitably prove fatal.

NOTE ON THE VALUE OF ELECTRICITY IN SOME AFFECTIONS OF THE SKIN.

BY G. BETTON MASSEY, M.D.,

ELECTRO-THERAPEUTIST TO THE PHILADELPHIA ORTHOPÆDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES.

THOUGH this therapeutical agent is sometimes referred to in treatises on diseases of the skin, I am led to call especial attention to it at this time from a belief in the infrequency of its employment by dermatologists, and also in order to point out, very briefly, important differences that exist in the indications for the use of galvanism and other forms of electricity.

Now, I do not think that faradism can ever hold a prominent place in this connection. It is true that we have in faradic electricity, when properly applied, a means for powerful stimulation of the sensory nerves of the skin, yet I do not see that this can be of much practical value in the diseases in question. As a means of physiologically treating anæsthesia, pruritic symptoms, and other sensorial disorders it is unequalled, but when the disease is intimately connected with alterations of the nutrition it is manifestly powerless. When faradism is applied to the skin it should invariably consist of the rapidly interrupted current, and be applied in such a manner as mainly to confine its action to the surface. Such a purpose can be accomplished by selecting any bright, dry, metallic surface as the active electrode, some other portion of the patient's body being connected with the indifferent electrode, which should be well moistened. Instead of a smooth surface for the active electrode, I have for some time preferred to use an ordinary wire hair brush so altered as to admit of the current traversing the wire bristles when the brush is connected with the battery.

Franklinism has seemed to me to be similar to faradism in its action on the skin, with this difference, viz., franklinic sparks have a much more irritant effect, causing first a contraction of the elastic tissue, blanching, and the production of "goose flesh;" followed quickly by a decided relaxation, redness, and congestion, which latter condition may persist some hours. A daily continuance of the application will result in the production of an acne-like eruption. I am not aware that franklinism has ever been used by dermatologists, and would merely suggest to them the possibility of this very decided action having a therapeutic value.

It is, however, in galvanism that we have a promise of great usefulness in some of these affections, due mainly to its action in producing electrolysis, as well as stimulating ordinary tissue change, and thus altering the trophic processes in parts acted upon. For this end we can alone rely upon the constant galvanic current, passed with gentleness directly through the diseased portions of skin by a well-moistened electrode, preferably the cathode, the similarly moistened anode being applied to some other part of the body. Its alterative potentiality when thus applied may be readily inferred from a reference to its action in health.

When healthy skin is brought under the influence of the moist poles of a mild current, sensations of burning and tingling are very soon produced, and increase steadily in intensity as long as the current is allowed to continue or remains bearable. This continuous increase in intensity during the application is found with no other form of electricity, and is due to the changes produced in the skin during the passage of the current that tend to make the upper layers a better conductor. As the application continues we have, therefore, an increasing current passing through the circuit, and the increase of pain and redness admonish us that we may lessen the number of cells employed towards the close of the sitting, and yet have a greater amount of current than at the beginning. As a rule, it will be found that the sensation of burning presents an excellent measure of the amount of current passing. Not so, however, with the tingling; this varies greatly in different parts of the body, and in different situations on the same member, and is due to the accidental inclusion of sensory nerves in the influence of the poles. In addition to these sensations, and increasing *pari passu* with the burning, there will be found a decided redness under the poles, gradually becoming wheal-like in character, and, if the application is continued, eventuating in a decided blister.

The time consumed in these changes, taking a fixed number of cells for comparison, depends more on the character of the skin of the individual or of the part than it does on the distance between the poles. As an illustration, it may be said that in most individuals much more current will pass through a circuit including the body from the inner surface of one forearm to one of the popliteal spaces than will pass through a circuit made by placing the poles two inches apart on the back.

These considerations are important in connection with therapeutic applications, as conditions of disease greatly alter the conductivity of the derm—generally increasing it—and render a current strength that would be unfelt in health a powerful factor for good or evil.

In regard to the differing actions of anode and cathode on the skin, I will affirm the truth of the

following: A more irritant action possessed by the cathode; a peculiar blanching of the skin that precedes the redness under the cathode; and a brighter tint of redness produced by the cathode than by the anode. Beyond these facts I would not at present care to go.

As illustrations of the therapeutic value of galvanism in two of these affections, I will append brief summaries of three cases that occurred in my practice.

The first case was the wife of a farmer, who suffered from periodical attacks of intense neuralgic pain in the right hand extending up the arm as the paroxysm attained its height. Coincident with the decline of the attack (generally several days from its commencement) an herpetic eruption would appear at the seat of greatest pain, occupying an area an inch and a half in diameter in the middle of the dorsal surface of the hand. Occasionally a spot, one inch in diameter, in the middle of the palm would be the seat of the eruption instead of the back. This case being turned over to me by Dr. S. Weir Mitchell, for treatment at the Electrical Clinics of the Infirmary for Nervous Diseases, careful anodic galvanization was practised for some weeks, with the result of controlling greatly the eruption. The paroxysms of pain remained as bad as ever, however, and the case was only cured subsequently by division of the nerves supplying the part.

The second case illustrates the therapeutic value of the method in a much bolder light. A prominent member of the profession, in this city, called on me recently with a history of recurring attacks of eczema of the right upper lip. The attacks came on suddenly and generally lasted nearly a month, the lip becoming much swollen, painful, and productive of intense discomfort. Various plans of treatment had been tried by eminent brother practitioners, but all to no purpose. On this particular occasion he was especially desirous of averting the attack that had just begun, and came to me with the request that I would try galvanism. Cathodic galvanization was immediately begun and practised twice daily for something over a week. The first application caused a change in the sensations of the part and started an improvement which culminated in entire recovery a week later.

The third case was more chronic in character, but presents an equally happy termination. The patient, a member of the bench of a southern State, aged about sixty, had suffered from an eczematous eruption on the right hand for eight months. After fruitless attempts to eradicate the disease his physician sent him to me. Direct applications of the cathode to the diseased surface were begun, the electrode being held in contact as long as a gentle current could be borne—generally from two to five minutes. The patient's time being limited, these sittings were repeated thrice daily for twenty days, at the end of which time the disease had entirely disappeared.

1502 ARCH STREET.

REMOVAL OF A SHAWL-PIN FROM THE TRACHEA BY OPERATION.

BY J. D. STRAWBRIDGE, M.D.,
OF DANVILLE, PENNA.

ON July 25, 1881, George S., a bright, active child of five and a half years, was left for a few moments to amuse his infant sister, and lay on his back on the floor, with the head of a small steel shawl-pin in his mouth, which was inhaled and lodged in the larynx. The mother saw him choking, ran to his assistance, thrust her finger into his throat to remove the cause, and forced the pin wholly into the windpipe, thereby relieving his breathing, but bringing on violent fits of coughing. The father, who was employed near by, was called at once, and brought the child in his arms to my office. After hearing the statements of the parents, who both asserted that they had felt the point of the pin with their fingers during fits of coughing, I took advantage of one, which soon occurred, to search the throat carefully with my finger, but failed to discover the presence of the pin. Although the child's face was flushed and swollen, the eyes suffused, breathing oppressed and wheezing, and cough frequent, I was still in doubt as to the pin having entered the larynx. I assured the parents that its removal from the windpipe could only be effected by an operation, but advised delay until its presence there could be positively ascertained, unless dangerous symptoms occurred, in which event I would operate at once.

Dissatisfied with this expectant course, the patient was carried about from one physician to another, until nearly every one in the place had been consulted. Each in turn having examined the throat and failed to find any trace of the pin, discredited the statements of the parents, and did not believe that a pin had been inhaled at all.

For two weeks after the accident, the health remained good, and but little inconvenience was experienced, except the cough and slight dyspnœa; after that time the fits of coughing became more severe, with increasing mucous expectoration and difficulty of breathing, followed later by chills.

On Saturday, August 27th, the parents came again to me with the child, and insisted upon an operation, notwithstanding the advice of their family physician, who assured them that it could do no good, and would only cause the death of the child. Finding the child's health becoming seriously impaired, and a fatal termination probably not far distant, I decided to operate, and appointed the following Monday morning, August 29th, for that purpose.

The patient was brought to my office; the anæsthetic was administered by Dr. Pursel, and Drs. Ogleby, Ammerman, Graul, and Mausteller being present. Assisted by Messrs. Neil and Hoffman, medical students, I commenced the operation by an incision through the skin from the cricoid cartilage to the sternum. To expose the trachea as low as possible required a very deep and careful dissection, as the neck was very short and thick. Very little

trouble was experienced from bleeding during the dissection, or from the division of the isthmus of the thyroid, which was found necessary. Two very large veins, united by a transverse branch at the lower end of the incision, covered the front of the trachea, and were the cause of considerable difficulty in its exposure. In attempting to detach and press them to one side, the left vein was injured, and had to be ligatured both above and below the cut. These veins, which I at first supposed were the inferior thyroids, I am now convinced were an anomalous development of the anterior jugular veins, and supplied the place of the external jugulars, which could not be found. The trachea was drawn up, and opened as low as possible; four of the rings were divided. The pin was readily found, and grasped with a pair of forceps. I attempted to carry it upward in the trachea, expecting to bring the head easily out through the incision, but was unable to move it either up or down. Seeing no alternative, I had an assistant take hold of the pin as low in the incision as possible with a second pair of forceps, while I maintained my hold above, and with a strong narrow-bladed bone pliers cut the pin between them. The point was easily withdrawn, but in cutting the pin the head portion was forced from the grasp of the forceps, and drawn by a strong inspiration into the bronchia. While casting about to select a suitable instrument, inversion of the patient was proposed by Dr. Pursel, and tried, but without effect.

The patient was returned to the table, and, having selected a long, slender pair of polypus forceps, the curve of which admirably adapted them to the purpose, I commenced to search for the lost portion of the pin. Expecting it had followed the most direct route, I passed the closed jaws of the instrument into the left bronchus, and searched carefully along its walls, until I could distinguish its principal division. Satisfied that it was not there, and that, from the size of the head, it could not possibly have gone further, I withdrew the instrument until I could enter the point in the right bronchus. Feeling carefully down this tube for an inch and a half or more, I struck the head of the pin. Slightly opening the jaws of the forceps, and turning them about, I was able, after a little search, to grasp the shaft of the pin. Knowing well that an attempt to withdraw the pin would probably result in serious injury to the bronchus, by forcing the shaft of the pin into its walls, unless the point was held in the jaws of the instrument, I drew the forceps back, feeling carefully along the shaft, until it had several times passed the end, and I was satisfied I held the point in the forceps. Applying gradually some little force without moving it, I was for a moment startled by the thought that the pin had been forced into the walls of the bronchus; but an instant's reflection assured me that this could only have been done by the forceps, and not without the pin having been moved from its original position, which had not been done.

Renewing my efforts, a little more steady traction brought the head suddenly from its position with a distinct sound which was heard by my assistants, and was withdrawn without further difficulty. The head of the pin, which was three-eighths of an inch in diameter, had been drawn into the bronchus at the commencement of an inspiration, and lodged against the first division, where it completely closed the passage, forming a perfectly tight valve, and prevented any further access of air to the right lung. The pin measured two and a half inches in length. The child breathed well by the natural passages after the extraction; and after he had returned to consciousness, a small fold of lint was laid over the incision, retained by a strip of adhesive plaster, and a light handkerchief tied about the neck. On the following morning the wound was closed by adhesive plasters, and in two weeks was entirely healed. The child has remained well up to the present time, perfectly free from any laryngeal complications, although three children of the family had previously died from croup.

MASTOID NECROSIS, MENINGITIS, DOUBLE OPTIC NEURITIS, AND ATROPHY OF BOTH OPTIC NERVES IN A CASE OF SUPPURATION OF THE MIDDLE EAR.

BY CHARLES SHAFFNER, M.D.,

ASSISTANT SURGEON TO THE EYE AND EAR DEPARTMENT OF THE PHILADELPHIA DISPENSARY.

ON October 29, 1883, G. M., girl, eleven years old, applied for treatment at the Eye and Ear Department of the Philadelphia Dispensary, suffering from a very interesting form of eye disease, which was due to a disease of the ear, which latter had existed for some time.

Five and a half years ago suppuration of the right middle ear set in, with severe earache. After the suppuration had existed for four weeks inflammation of the mastoid occurred. During this time she was treated at her home by her physician with syringing the right ear with warm water and poultices to the mastoid, which caused the abscess to break, and soon after this facial paralysis came on. She was sick seven months in her own home, and then went to a hospital. Soon after this she lost her sight, and was blind for six weeks. Maniacal delirium set in and would last for two or three hours at a time; kept up for three weeks, and was very severe, it being necessary to hold the patient down in bed. There was severe pain in the right side of the head, and all the symptoms of cerebral meningitis. She was treated with ice and cold dressings to the head.

In addition to the blindness, divergent strabismus now came on, while the sight began to be spasmodic, coming and going for two months, and then gradually improving up to the time of her visit to the dispensary. Three pieces of bone were discharged, one from the external auditory meatus and two from the mastoid region. Suppuration from the right external auditory meatus has kept up until now, and the mother, under advice, has only endeavored to keep the ear clean.

At the time of her entrance into the dispensary on

October 29th, she presented the following condition: O. D. V. $= \frac{10}{cc}$. She read some words in Jaeger's No. 8 type. Hypermetropia 1.5 D. Right disk was greenish-white in color, and its upper border was obscure. There was a crescent one-sixth of the size of the disk to the outer side. The right retinal vessels were small. O. S. V. $= \frac{6}{cc}$. She saw letters in Jaeger's No. 14 type. Hypermetropia 1.5 D. The left optic disk was greenish-white, and there was pigment on the disk. There was a white crescent in lower part of the disk equal to one-eighth of its diameter. Left retinal vessels were small. Both eyes were then in an advanced stage of optic nerve atrophy. The right ear was still suppurating rather freely, and the marks of the former mastoiditis could be seen in a large depressed scar behind the right auricle. The patient is still very dull and of rather feeble intelligence. She was ordered cod-liver oil, the suppurating ear was treated, and the patient kept under view.

The case is of great interest, as showing what serious complications can arise from an ordinary suppurating ear, and as showing such a clear chain of inflammation from the ear to the eye; first the mastoid trouble took place, then cerebral meningitis followed, to be succeeded by double optic neuritis, most probably descending neuritis, and that by atrophy of the optic nerves. It very seldom occurs to an eye and ear surgeon to see these two organs connected by such a sequence of events, and for that reason this case has been thought worthy of being noted.

HOSPITAL NOTES.

THE CINCINNATI HOSPITAL.

(Service of ROBERT SATTLER, M.D.)

INTERESTING CASES FROM THE OPHTHALMIC WARDS.

Reported by F. O. MARSH, Resident Physician.

RUPTURE OF THE ZONULA OF ZINN, WITH DISLOCATION OF THE LENS INTO AQUEOUS CHAMBER.

CASE I.—John G., æt. 57, stone-cracker, while engaged at his work, five weeks before coming into the house, was struck in the left eye by a large fragment of stone. The accident was followed by immediate loss of sight and great pain in the injured eye. Three weeks subsequently the pain subsided somewhat, and vision partially returned for objects at the periphery of the field. On coming into the house, October 5th, no external injury could be detected, but the eye was considerably injected and painful. The pupil was dilated to the utmost, and fixed, only a narrow rim of iris being visible. The lens was dislocated in its capsule into the anterior chamber, and completely cataractous. Between the rim-like iris, and the periphery of the opaque lens, which still preserved its original size and shape, could be seen a narrow belt of pupil. Intraocular tension + 2. Ordered salicylate of eserine gr. j aq. ʒij, instilled every four hours. No influence was exerted upon the iris, except that the pain was relieved and the intraocular tension was diminished.

October 15.—The lens was extracted through a lower linear section of the cornea, the knife being passed through the lens in making the corneal incision. Ordered absolute quiet in bed, and a compress bandage over both eyes. Subsequently a mild solution of boracic acid was used as an antiseptic lotion. Though the operation was attended with slight loss of vitreous humor, very little reaction followed.

COMPLETE LUXATION OF THE LENS IN ITS CAPSULE, BY SLIGHT PERCUSSION, INTO VITREOUS CHAMBER.

CASE II.—M. F., æt. 64. Had always had good sight, according to his own statement, with no symptoms to call attention to his eyes till one week before presenting himself to the clinic, when he had fallen on the floor from a sofa while asleep. The accident was followed by immediate loss of sight in the left eye. On admission to the clinic the lens could be seen luxated in its capsule, and lying in the bottom of the vitreous chamber completely opaque, and very movable. The iris was tremulous, the vitreous completely disorganized, and with the ophthalmoscope a large number of floating opacities could be seen moving readily back and forth through the pupillary area, between the anterior chamber and the vitreous, the whole interior of the eye being thrown into one common chamber. No pain or reaction; vision absent.

INJURY TO THE EYE WITH THREATENED PANOPHTHALMITIS; SYMPATHETIC TROUBLE; ENUCLEATION.

CASE III.—George H., admitted October 8th, colored, æt. 22, steamboat hand.

Two days before admission was struck in the right eye with a sharp stick, inflicting a contused and lacerated wound, extending vertically completely across the cornea, and penetrating also the iris and lens. Lacerated iris tissue and a small amount of opaque lens substance were protruding from the wound in the cornea. Lids swollen; chemosis of ocular conjunctiva excessive. Intense pain had existed in the injured eye since the accident. Dr. Sattler removed the protruding and mangled iris tissue, and evacuated the opaque lens substance. One-quarter grain of morphia was administered hypodermically in the right temple, and a four grain solution of atropine instilled into the eye every four hours; subsequently, a two grain solution every three hours; rest in bed, and ice applications.

October 9.—Slept well, pain much less, chemosis undiminished. Ordered equal parts unguent. hydrarg. and unguent. belladonnæ applied to right temple every four hours. Applied three leeches; ice applications continued; mercurial purge at bedtime.

10th.—Chemosis much less; pain subsiding; corneal wound gaping and edges vascular, but no tendency to suppuration. The opaque lens matter was completely removed.

24th.—Corneal wound healing, with slight indrawn condition of the corneal cicatrix, though the ball still preserves its rotundity; vision reduced to perception of light.

November.—The pain and inflammatory symptoms continued to subside until Nov. 16, when pains in and

about the eye again commenced. The injured globe became the seat of exquisite sensitiveness, and manifested, on pressure, the characteristic ciliary or point pain. A few days after this, the uninjured eye manifested all the signs of sympathetic irritation, and on November 20th these symptoms were so threatening and pronounced that enucleation of the injured eye was performed.

UNFORTUNATE RESULT OF A BADLY EXECUTED STRABOTOMY.

CASE IV.—Annie M., æt. 43, admitted October 17th, is very myopic, and also amblyopic. States that many years ago an operation was performed on both eyes by a travelling doctor to relieve a slight degree of strabismus convergens, which only existed at times. Ever since the operation she has been unable to turn her eyes from side to side without moving the whole head. At present, both eyes diverge enormously, with no power to move either eye, even to the median line. The right eye is more prominent than the left, but both eyes are exophthalmic. Double vision has never at any time existed, but sight has been very defective.

October 20.—An advancement operation of the internal rectus muscle of the right eye was made, together with a tenotomy of the external rectus. Ordered ice applications, rest in bed, and a firm compress bandage to both eyes.

24th.—Removed the stitches; no reaction exists; patient possesses the power to move the eye well beyond the median line; exophthalmus less pronounced.

REMARKS.—Case I. is interesting on account of its comparative rarity; rupture of the zonula of Zinn and dislocation of the lens entire in its unbroken capsule, being unusual in an eye free from previous disease. It is perhaps not a little remarkable too that, considering the necessary violence of the injury, rupture of the sclerotic did not occur. The fact that the luxated lens acted as a foreign body, causing considerable pain, and producing secondary glaucoma, rendered its removal imperative. The operation of course differed from the ordinary cataract extraction, in that no iridectomy was required. On the contrary it was a desirable object, yet a point which was not attained, to contract the iris by the use of eserine into a barrier behind the lens to prevent its recession backward into the vitreous, during the attempt at extraction. The operation was performed by making the corneal puncture a little back of the sclero-corneal limbus, and then by a quick movement spearing the lens thus preventing its escape into the vitreous during the completion of the corneal incision. The lens was then readily expelled by the ordinary manipulation. At present, she counts fingers with a + 3½ lens, and sees objects about the room. No rupture of the choroid exists. The iris is still dilated, and two distinct rents are visible as the result of the passage of the lens into the anterior chamber.

In Case II., in contrast with Case I., it is interesting to note, that a pathological process must have been progressing for a length of time previous to the accident, without any apparent inconvenience to the patient, yet of such a nature as to allow the complete luxation of the lens in its capsule by a comparatively slight percussion. The eye being perfectly non-irritable, no interference was instituted.

In Case III., owing to the extensive character of the injury, including a lacerated cornea, iris, and lens, a kerato-iritis of a suppurative character, or even panophthalmitis and subsequent phthisis bulbi, was imminent; but by a timely interference and the use of rest, cold applications, leeches, etc., immediate danger and more protracted suffering were avoided, and the untoward results threatening seemed to have been warded off. The hope of obtaining a perfectly non-irritable eye, free from the danger of inducing sympathetic trouble, was in this case, in spite of the careful removal of the iris tissue and removal of the lens, thwarted by the rapid and violent development of sympathetic irritation of the fellow-eye, which necessitated the prompt removal of the injured one.

Case IV. is an unusually striking example of the unfortunate results that may follow a badly executed strabotomy, where the muscle is divided too far from its tendinous insertion, and the power of convergence altogether destroyed, thus causing a deformity much more serious than the original squint. The operation of advancement was attended with great difficulty, owing to the atrophied and shrunken state of the rectus internus muscle. An endocapsulitis had also existed, doubtless as the result of the previous operation, causing extensive adhesions between the capsule of Tenon, the sclerotic, and the tendon of the rectus externus.

These circumstances, combined with an unusually thin sclerotic, made tenotomy of the external rectus extremely difficult. The advancement of the external rectus was made by passing a double thread through its tendon and the conjunctiva at that point, and bringing it well forwards and stitching to the conjunctiva above and below near the corneal margin. It should be added also that the existence of a high degree of myopia (12 D.) makes it evident that the strabismus for which the original operation was performed was apparent rather than real, and was not due to, or associated with, excessive power on the part of the internal recti muscles.

MEDICAL PROGRESS.

THE OPERATIVE TREATMENT OF PROLAPSE OF THE UTERUS.—At the meeting of the Medicinische Gesellschaft, in Giessen, on May 1, 1883, DR. KALTENBACH spoke of the results of the operative treatment of this affection as opposed to the treatment by means of pessaries, etc. The latter, he said, are seldom satisfactory for complete retention of the prolapsed organ, and must be often changed; moreover, there is the danger of bad consequences from too great pressure. The operative treatment is easily carried out, and, with the proper antisepsis, is almost entirely devoid of danger. Of more than one hundred cases of operation for prolapse, he has had only one case of severe sickness.

The operation should only be performed on recent cases and slight degrees of dislocation; it should not be performed on very old people, as the anæsthesia and the subsequent confinement are dangerous.

Kaltenbach reported the case of a women aged sixty-one years, in which the usual orthopædic treatment had completely failed. The vagina was totally inverted, and the thickened bladder wall and Douglas's pouch extended to the extremity of the prolapse. At the first operation,

one and four-fifths of an inch of the supra-vaginal neck was excised. Three weeks later, colporrhaphy and colpo-perinæorrhaphy were performed. The case was a complete success.—*Berliner klin. Wochensch.*, Nov. 19, 1883.

EUCALYPTUS IN GANGRENE OF THE LUNGS.—DR. BONAMY relates the case of a man, about fifty years of age, who was admitted to hospital suffering from cough, dyspnœa, and fever. A few days after admission, the fetid odor of his breath became so extreme that it was necessary to separate him from the other patients. There was dulness in the axillary line on the left side over the middle portion of the lung. At this point there was tubular respiration, and crepitant râles were audible at the end of inspiration. The sputa consisted of a black matter, detached portions of which were swimming in an abundant serous fluid. The cough was incessant, and the odor intolerable. A diagnosis was made of gangrene of the lung of superficial extent. The patient was first put upon a mixture containing carbolic acid, but no improvement following, this was replaced by tincture of eucalyptus. In two days after the last prescription the odor of the breath was much less offensive, and in less than two weeks the patient was cured.—*The Practitioner*, Dec. 1883.

ALIMENTATION OF CHILDREN AFTER TRACHEOTOMY.—PROF. SAINT-GERMAIN, in a recent article on this subject in the *Revue Mensuelle des Maladies de l'Enfance*, gives directions for the proper feeding of children upon whom tracheotomy has been performed. The children generally refuse food, and are consequently deprived of the means of building up the strength.

This is due to several different causes; one of the first is the bad disposition of the child, which has not been sufficiently controlled. Pain on deglutition is another, often caused by the wide and deep eschars produced by the cauterizations so frequently and unwisely applied by a great number of physicians. Others again, especially in an advanced stage of the disease, are affected with paralysis of the palate which makes deglutition impossible, as all liquid food is regurgitated through the nose.

M. Saint-Germain has employed, in all these cases, a procedure which has been recommended and used after surgical operations on the mouth or tongue which incapacitate the patients swallowing. A caoutchouc sound of medium calibre is introduced through one nostril, and passed into the stomach. Through this, milk, bouillon, wine, and other liquid foods may be injected—such as are employed in ordinary practice when a liquid diet is necessary.

This procedure has been used a large number of times at l'Hôpital des Enfants, and has given most excellent results. It is easily performed, there is no danger of making a false passage, and the canula already in the trachea precludes the possibility of the sound going into that passage.—*Bull. Gén. de Thérap.*, Nov. 30, 1883.

BROMIDE OF ETHYL AND NITRO-GLYCERINE IN NERVOUS DISORDERS.—PROF. O. BERGER has found bromide of ethyl useful—(1) In neuralgic conditions of the nerves of the face and head, in megrim, and in nervous headache and heaviness. The inhalation of twenty to forty drops of the remedy several times a day has lessened headache in cases in which quinine, salicylic acid, caffein, and guarana had all proved useless; and in three cases of headache connected with cirrhosis of the kidney, it was better than any other remedy. (2) In neurasthenia; it is here given in doses of from one to three grammes twice or thrice a day if necessary. (3) In epilepsy; here it is of very little use, although Bourneville and D'Ollier considered it useful. They narcotized their patients daily for ten to twenty minutes with it, but when given in doses of one gramme daily by inhalation it is useless. It is besides expensive, and causes much depression. When inhaled before or during the epileptic attack, it only prevents it or cuts it short in exceptional cases. (4) In hysteria it is of more use. The attack of hystero-epilepsy may sometimes be cut short by narcotizing with it for ten or fifteen minutes, eight to twelve grammes of the drug being required. When given in doses of a half gramme to two grammes by inhalation once or twice a day, it may avert a threatened attack of hystero-epilepsy. (5) In several cases of psychical excitation the bromide of ethyl has proved serviceable. The author finds nitro-glycerine also useful in headache.—*The Practitioner*, Dec. 1883.

SOLID TUMORS OF THE ROUND LIGAMENT.—A recent number of the *Archiv für Gynäkologie* contains a careful paper on this subject by DR. M. SÄNGER, of Leipzig. These tumors belong to the connective tissue group, their structure being that either of myoma, fibroma, sarcoma, or a combination of these. The author has collected twelve such cases, to which he adds a hitherto unpublished one of his own. In situation, he points out, they may be either *intra-peritoneal*, that is, growing from the part of the round ligament which is within the peritoneal cavity; *intra-canalicular*, *i. e.*, in the inguinal canal; *extra-peritoneal*, that is, arising from the round ligament outside the inguinal canal; or they may grow from the abdominal wall, in such proximity to the origin of the round ligament that their connection with that structure may be inferred. The third, or extra-peritoneal variety, are the commonest. Most of them are fibroid in structure. In eight out of ten of Dr. Sänger's cases the tumor was on the right side; and he asks, "Does this arise from causes similar to those which cause a greater frequency of inguinal hernia on the right side?" He cannot trace a predilection for any particular age. All the patients had borne children. The growth of these tumors is usually slow; during pregnancy they seem to increase with greater rapidity, and during the lying-in period to undergo a temporary retrogression or involution. The only exciting cause that Dr. Sänger can find, and this only in one case, is long-continued or severe pressure. The growths themselves appear to cause no symptoms until they get large, and then they may be painful and tender, and cause symptoms by pressure or dragging on other parts, such as dysuria, ovarian pain, constipation, abdominal and sacral pain, etc. They may thus deteriorate the general health. The diagnosis is extremely difficult; and there hardly seem to be sufficient grounds for formulating any diagnostic points. The only treatment of these tumors is removal. This is called for not only on account of the symptoms they cause, but also because of their liability to accidental injury and inflammation in consequence of their superficial situation.—*Medical Times and Gazette*, December 1, 1883.

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SATURDAY, JANUARY 5, 1884.

THE MICROCOCCUS OF PNEUMONIA.

THE micrococci of pneumonia, as described by FRIEDLANDER and FROBENIUS in their recent researches as abundantly present in the exudate into the alveoli in the acute form of the disease, and in the lymph passages of the affected lung, are, in most instances, surrounded by a more or less thick capsule, which is stained pale blue in gentian violet and fuchsin. The capsule is frequently broader than the coccus itself, externally sharp contoured, and adapts itself to the shape of the latter, being elliptical or circular as this happens to be. Two adjacent micrococci may be surrounded by one capsule, producing an elongated ellipse. In other organisms, again, the central coccus is completely wanting. The pneumonia-cocci are, however, never found in zoöglœa masses.

On account of the different reaction of the capsules, their solubility in water and alkalies, and their insolubility in acids, Friedlander believes that they are composed of mucin or a closely allied substance. The capsules are most easily and quickly demonstrated by staining the dry preparation with a solution of aniline and gentian violet. The cover glass, on which the preparation has been dried, is placed for half a minute in alcohol, by which the ground-substance is quickly and the capsule and cocci more slowly decolorized. The preparation is then placed in distilled water, in which it may be studied, or preserved in Canada balsam or damar. The cocci may also be stained in eosin.

Such a capsule-formation as this, in which the individual micrococcus is surrounded by a well-marked gelatinous capsule, has not previously been observed in cleft fungi; or at least in no other micro-organisms found in the human body is a gelatinous capsule of such decided thickness found as in the pneumonia-cocci.

The capsule-bearing micrococci have also been found in the pneumonically infiltrated lung-tissue itself, very abundantly in the pleuritic and pericardial exudate, as well as in the serous infiltrated pleuritic adhesions in cases in which these were the result of a preëxisting pleurisy. They were also found in the non-infiltrated, but œdematous, parts of both lungs when there was pneumonia of one lobe only, death occurring in the stage of acme. On the other hand, they were not found in the blood or other organs. In several cases of true croupous pneumonia, which had lasted more than six days, true cocci were found in the blood, but no capsules. In other instances, only a part of the cocci were provided with capsules. But in other fresh cases, where death occurred during the advance of the disease, the capsules were invariably present. It may, therefore, be said that the capsules correspond to the highest stage of development of the fungus, and are a necessary product of the living phenomena of the organism.

Culture-experiments demonstrated that the micrococci exhibited some peculiarities in the different animals. In the pneumonia of men it will be remembered that there were differences in size and structure of the cocci. In the mouse the cocci are considerably larger than in man—from two to three times the size. In guinea-pigs they are usually smaller than in mice, but have, on the other hand, a very broad capsule. In dogs they are about the same size as in man. In all species there are found more frequently than in man, along with the cocci, rod-shaped bodies of different length, but mostly as long as the double coccus, and always surrounded by the characteristic capsule.

The important bearing of these new observations if confirmed, on the cause and nature of pneumonia, is evident. To many who have had clinical experience with this affection, it will not be a surprise to find facts adduced which lend support to the view that it is an infectious disease, for there have not been wanting features in the clinical history of many cases which favor such a view, while some observers have long been satisfied as to its infectious nature. Among these, we believe, is Prof. Austin Flint, Sr. The bearing of these views upon the prophylaxis and treatment of pneumonia has yet to be determined; but there is reason to expect that both may be materially modified if it be eventually determined that it is an infectious disease.

SANE OR INSANE? REPORT OF THE MEDICAL COMMISSION ON THE CASE OF JOHN McGINNIS.

JOHN MCGINNIS, convicted of the murder of his mother-in-law, and now awaiting the death penalty, is alleged to be insane. A commission appointed by the Governor of Pennsylvania, consisting of Drs. Jones, Moon, Mills, Andrews, and Morton, have been engaged for several weeks in investigating the case, and have terminated their labors by a majority and a minority report, the latter signed by Dr. Morton. As regards the composition of this commission, it may be well to state that three of them—Drs. Jones, Moon, and Mills — are alienists and neurologists, Dr. Andrews is a physician and surgeon, and Dr. Morton is a surgeon. There were no medical or surgical questions, apart from the mental condition of McGinnis, to be decided.

The majority report, signed by all except Dr. Morton, is emphatic in declaring that McGinnis is insane; that he has "delusional monomania," and "chronic alcoholic insanity." The reasons for this conclusion are given in detail. The family history of the criminal is marked by a strong neurotic tendency, and he has exhibited from an early period peculiarities of mind and very pronounced moral obliquity. He had been addicted to drink, to other vices, to crime. The report very justly maintains that a disposition to vice and crime is an evidence of mental unsoundness, rather than of superior powers of mind. But the proof of his insanity is the existence of delusions of suspicion and persecution. Up to the time of his incarceration, his sole delusion was of "marital infidelity;" afterward he became suspicious of his counsel and spiritual advisers, and subsequent to his conviction he had hallucinations of sight and hearing; he had visions and heard voices. Such is the case of the majority.

The minority report, made by Dr. Morton, is a clear and strong presentation of fact and opinion, and is, it need hardly be said, the antipodes of the majority report. Dr. Morton questions the accuracy of the family history told by those interested in saving McGinnis from the shame of the gallows; and he denies the correctness of a diagnosis which confounds a mad, but not causeless, jealousy with a systematized delusion. As regards the hallucinations of sight and hearing, and the delusions of suspicion and persecution, they are held to be feigned; McGinnis, at the time of the Guiteau trial, having expressed himself confidently as able to simulate insanity more successfully, and these symptoms of mental derangement having manifested themselves since his trial ended.

As the counsel for McGinnis did not enter the plea of insanity in his defence, nor in the argument for a new trial, the prominence given to this point since his conviction rather indicates, as Dr. Morton suggests, that it is an afterthought—an inspiration born of an urgent necessity. Up to the time of McGinnis's arrest and conviction, the only evidence of mental derangement consisted in the "delusion with reference to marital infidelity." There can be no doubt that the psychosis called chronic alcoholic insanity is marked by the presence of delusions connected with the sexual relation. The so-called delusion of McGinnis does not, however, conform to the usual clinical definition of that affection. It was not marked by the hallucinations of the sexual functions, so characteristic of alcoholic insanity. McGinnis was simply madly jealous, and not without reason, according to the evidence of reliable witnesses. Furthermore, his supposed delusion does not appear to have been preceded by the usual alcoholic delirium, nor by those somatic derangements belonging to chronic alcoholism. If the doctrine of insane delusion be interpreted according to the ruling of the majority report, many persons now considered sane are fit for asylum restraint. McGinnis had an insane delusion because he could not be convinced of the purity of his wife. The believer in ghosts or in spiritual manifestations must also have a delusion, because he holds to the truth of certain hallucinations, regarded as such by the most of mankind, and of the falseness of which he cannot be convinced. McGinnis's belief in the infidelity of his wife, had been a delusion, if coupled with other insane conceptions related thereto; if, for example, he was convinced that his sexual organs had been bewitched by the machinations of his wife's paramour. It is not alleged that previous to the murder, McGinnis associated any hallucination, whatever, with his notion of his wife's unfaithfulness.

Since the original report was made, a supplementary communication has been addressed to Governor Pattison by the majority, setting forth that McGinnis has now distinct hallucinations of hearing, and, to some extent, of vision, and reaffirming their opinion. If these symptoms are not feigned—admitting their genuineness—they have diagnostic value now, only as throwing light on the question of responsibility at the time when the crime was committed. For these reasons we believe that Dr. Morton's objections to the theory of chronic alcoholic insanity, which is put forward in the majority report of the Commission, are well founded, although the conclusion at which they have arrived may be correct.

The mental symptoms which have appeared subsequently to the trial; the delusions of suspicion and persecution; the hallucinations of sight and hearing, and an ecstatic religious state are, in the majority report, regarded as genuine manifestations of the alcoholic psychosis, but, in the minority re-

port, held to be feigned. The unsystematized delusions of persecution consist in a vague distrust of his lawyer and of his spiritual advisers; but if every man who fails in gratitude to those who have befriended him unsuccessfully, must be laboring under an insane delusion, then surely must our conception of insanity be greatly expanded. Although it is true, as stated in the majority report, that malingerers feign either acute maniacal delirium or dementia, McGinnis, who had studied the Guiteau case, might be expected to act with more acuteness, and conceive a higher ideal of mental perversion. The coincident appearance of these hallucinations with the efforts to procure a mitigation of sentence, is, at least, a suspicious circumstance, for surely his counsel would not neglect such an opportunity had these mental symptoms existed before the trial. But, considered of themselves, the hallucinations at this period, as well as before the trial, as above stated, were not in harmony with the clinical characteristics of chronic alcoholic insanity, for in this malady the delusions are usually connected with the sexual organs, indeed, we may say almost invariably when marital infidelity enters into the insane conceptions.

In the suggestive report of Dr. Morton, the business capacity of McGinnis is insisted on as an evidence of his responsibility. Although insanity is not incompatible with the possession of considerable powers of mind, responsibility before the law involves many considerations. We have always maintained in these columns, that capacity to distinguish right from wrong, and the will power to do the right and avoid the wrong, should constitute the criterion of responsibility. John McGinnis knew the nature of the act he intended to commit, and the consequences; the law gave him the power to obtain redress for any wrong done by his wife; he choose to execute vengeance in his own way, and thus deliberately accepted the consequences. Had he heard a voice from Heaven, in the genuineness of which he believed, and in response to which he acted, he must be considered irresponsible before the law and in the judgment of all alienists and jurists; but his auditory hallucinations had no connection with the commission of the crime.

HIGH AMPUTATIONS FOR SENILE GANGRENE.

AT a recent meeting of the Royal Medical and Surgical Society, a most important question was raised by MR. JONATHAN HUTCHINSON on the treatment of senile gangrene, or that form of mortification which is due to calcification of the arteries, by amputation of the limb at a good distance beyond the seat of the lesion. In gangrene of the toes and foot, the lower third of the thigh should be selected, and the middle of the arm in the rare cases in which the hand is affected.

The practice advocated by Mr. Hutchinson has been taught in this country for many years by the elder Gross, who based it upon the fact that the disease in the vessels of the lower limb, as demonstrated post-mortem, extends at least as high as the popliteal artery. He, however, maintains that we should await the formation of the line of demarcation, while Hutchinson advises that the operation should be resorted to as soon as the patient is sufficiently ill to take to his bed, and the affection is well established.

Senile gangrene and dry gangrene are not synonymous. In the large majority of cases our own observations confirm the statement of Mr. Hutchinson, that it is moist. Hence, if the case be allowed to pursue its own course, death generally ensues from septicæmia before the line of demarcation is formed, spontaneous recovery, especially when the affection extends beyond the toes, being a curiosity. In a smaller proportion of cases the fatal result is due to exhaustion and pain.

For these reasons we regard the recommendation of Mr. Hutchinson as being most timely and rational, and the opinion of those who took part in the discussion was also, as a rule, favorable to the practice. In this country, the younger Gross has invariably insisted, in his lectures, upon early and high amputation to prevent septic infection. The only objection that can be urged against the procedure is the danger of amputation of the thigh in old subjects, but the risks are, at the present day, reduced to a minimum by the employment of anæsthetics, Esmarch's bandage, and aseptic precautions. Our firm conviction is that everything is to be gained by throwing aside old traditions and superstitions in the management of senile gangrene. Left to itself, the disease rarely terminates in recovery; if amputation be performed near the seat of the trouble, the flaps are liable to die; if performed early and high up, amputation is likely to save life, as in the cases recorded by Hutchinson, James, Dix, Rivington, and Godlee.

DIGITAL EXPLORATION OF THE BLADDER.

In the current issue of THE MEDICAL NEWS, SIR HENRY THOMPSON calls attention to a mode of exploring the bladder in cases of obscure disease, through which the existence of suspected lesions may be accurately determined, and the proper remedies be applied for their relief. In systematizing the procedure, he has done for the male what Simon, of Heidelberg, upwards of seven years ago, did for the female. It will be remembered that the latter surgeon rapidly dilates the urethra with specula of

hard rubber, if necessary up to a diameter of four-fifths of an inch, through which he is enabled to explore with the finger the entire inner surface of the organ. Simon's operation is as free from danger as the median perineal incision in the male, and is not followed by incontinence of urine.

In nearly one-half of the explorations made by Sir Henry, tumors were detected, and more or less thoroughly removed with the instruments described in his valuable communication. The wonder is that neoplasms existed in so many cases, and if the proportion be found to be as great after a more extended experience, it will be of great aid to the surgeon in diagnosticating tumors in obscure vesical disease.

CATHETER FEVER.

ON December 13th, at the Medical Society of London, SIR ANDREW CLARK read a characteristic paper on "Catheter Fever," which was the occasion of a most remarkable discussion. The whole of the matter appears to us to lie in a nutshell. About 1865 Sir Andrew Clark evidently saw a case of what Sir Henry Thompson and other surgeons would call continued or chronic urinary fever. This case died, and at the autopsy Sir Andrew found no lesion whatever of the renal tissues or ureters, but the bladder was hypertrophied, and the seat of a sloughy inflammation. All the constitutional signs of the disease of which the patient had died, had ensued on the use of the catheter at the commencement of what Sir Andrew would term "catheter life." It is important to mention that in the case in question, the patient passed water too frequently; the urine was of low density, and although it contained no albumen, it might possibly have been the urine of a man the subject of chronic Bright's disease.

Having narrated a typical case of catheter fever supervening on undoubted prostatic enlargement and "overfull" bladder, Sir Andrew gave a most instructive historical account of "fever" resulting from surgical interference with the urinary organs. He showed how such a fever had been recognized by physicians in the very beginning of the present century, how Velpeau in 1841 had made post-mortem examinations in such cases, how Marx, and later on Malherbe, Henry Thompson, Fayrer, and others had studied the question. It resulted from all this that many observers of repute had been as unable as Sir Andrew himself to discover alterations in the kidneys of certain cases. It was not denied that many of the cases had died with well-marked signs of interstitial nephritis, as Marcus Beck had so ably and conclusively shown. But Sir Andrew contended that there were a limited number of such cases which could not be written down as examples of death from renal disease.

This question of the involvement or not of the renal organs, evidently is the pivot round which the whole controversy turns. Is Velpeau wrong, are Marx and Malherbe wrong, is Sir Andrew Clark wrong? Now, with all due respect to the great authorities mentioned, we must give it as our unqualified opinion that these observers are in error. And for the following reasons: Velpeau's work having been done forty years ago, we submit that, from a correct histological point of view, it cannot be of any value because of its age. The methods of histological research have improved so vastly; we know so much more of the normal and abnormal appearance of tissues than we could have done forty, twenty, nay even ten years ago. And we say this in a judicial spirit. We have every belief that these observers spoke the truth so far as they knew it. But we repeat that what we want, is some sections made by Velpeau or Marx or Sir Andrew, or any other individual, taken from the renal organs of patients who have succumbed to the continued form of urinary fever. Let us examine these sections, and let us declare that there is nothing morbid in their texture, and we will humbly apologize for our present disbelief in the facts themselves. We feel firmly convinced that in these examples we should find microscopic evidence in the shape, say of little collections of leucocytes in the interstitial tissue of the renal organs.

Sir Henry Thompson made a most excellent, judicious, and exhaustive speech on the question, repeating most lucidly his views as contained in his work on the *Diseases of the Urinary Organs*. Mr. Berkeley Hill had never failed to find interstitial nephritis in autopsies made by himself or in those performed in University College Hospital during the past few years. Mr. Scovell Savory also gave a very good address, in which he advocated the claims of some of the cases to be regarded much more as resulting from nervous disturbance, of the nature of prolonged shock, than of septicæmia. Mr. Reginald Harrison advocated the septic view of the disease.

THE ACCIDENT TO GENERAL GRANT.

AS GENERAL GRANT stepped from his carriage in front of his residence in New York on the evening of December 24th, he slipped on the ice and fell, striking heavily upon the outer and upper portion of his left thigh. The pain was extreme, and the inability to use the limb complete. The fall, the age of the patient, and the subjective symptoms suggested probable fracture of the neck of the femur, and the incomplete examination of the limb, which alone was possible at first because of the pain, did not entirely exclude this diagnosis. After the lapse of thirty-six hours the pain subsided, and then a

thorough examination made by Dr. Fordyce Barker and Dr. L. A. Stimson, who are in attendance, failed to discover any objective signs of fracture.

The injury, we are authoritatively informed, appears to have been a severe contusion of the outer and upper portion of the left thigh, with possible rupture of muscular fibres or attachments in the effort to avoid the fall.

On Monday, the 31st, the General was able to sit up for some time, and his early recovery is confidently anticipated by his physicians.

REVIEWS.

HEART AND SCIENCE. A STORY OF THE PRESENT TIME. By WILKIE COLLINS.

FICTION has been used more than once already in that fight against certain ways of increasing our knowledge which is called the "Anti-Vivisection Movement." Once there was that original assertion which the "Zoöphilists" made that Harvey had never used living animals in his researches. Again, they said that Sir Charles Bell had made his most famous discoveries without vivisection. Of course these agitation-mongers never thought it worth while to verify their references to these authors. But lately fiction has been brought to the aid of the movement in a different and more legitimate way, in the shape of a novel,[1] in which Mr. Wilkie Collins, with all his characteristic energy, has come to the assistance of the cause.

That Mr. Collins should write an "antivivisection novel" is proper enough, and no doubt it pays him well: that the old arguments should be repeated is natural, because there are no new ones. Clear reasoning or true logic is scarcely to be looked for, because the whole agitation against experiment has become a sort of religion of faith—a belief, a matter of sentiment simply, not a result of reasoning processes. Even those of the believers who will argue the queston at issue are like the Scotchman who was "open ta conveection but wad like to see the mon that could conveence him." We expect then none of these things in the book—but we may reasonably assume that in a "novel of purpose" the characters are intended for types of their classes. Accordingly we find two medical types—the hero and the villain of Mr. Collins's tale. The hero, Mr. Ovid Vere, is a young physician of extraordinary abilities, and a most commendable tenderness of heart. That he should faint when the villain treads by accident upon a beetle is perhaps praiseworthy, and that he should turn pale and tremble at the mention of "vivisection" is perhaps not to be wondered at, considering the subject and object of the book. His superhuman abilities are manifested by his publishing the MS. bequeathed to him by a mulatto physician whom he has attended on his death-bed in Quebec. This work contains the solution of that obscure problem in the treatment of "brain disease" to which the villain has devoted years of labor and many "vivisections." This same problem, Mr. Collins tells us, "has thus far been the despair of medical men throughout the whole civilized world."

The second typical character is the wicked doctor, a "vivisector," who, like all who seek by the aid of experiment to increase knowledge, is tall, dark, hideously ugly, and so utterly without moral sensibility of any kind that he allows the cousin and betrothed of the hero, who falls ill in his absence, to grow worse and worse in order that he may study the uncommon phase of disease which she represents, to wit, simulated paralysis of a hysterical nature, and he thinks it very strange that the lover on his return should be angry. Dr. Vere has brought with him his legacy of knowledge from Montreal. Certain cases related in the book are, of course, precisely like the girl's and he is enabled to effect her cure. The preface of the great treatise is quoted against the "useless and detestable cruelties which go by the name of vivisection." On reading further we find his subject is hysteria. It is very probable that all the additional knowledge of the treatment of hysteria in a human female that he could have derived from the examination of a dog's brain, would scarcely have repaid his trouble. When Carmina is recovering, Mr. Vere is much amazed and alarmed to find a lapse in her memory of some days—not an unusual incident in severe hysterical cases. Finally, the villanous vivisector, Dr. Benjulia, finding himself forestalled in his grand discovery, makes his will, leaving everything to Vere's half-sister, of a child of whom he is fond. Mr. Collins allows him one human feeling—turns loose the animals from his laboratory, shuts himself up with a laudanum bottle, fires the uilding, and so dies. "His brethren of the torture-table attended the funeral in large numbers."

Now what a muddle of nonsense is all this! We have too much respect for Mr. Collins's abilities to suppose that he seriously intended these people for types, or these screams of abuse for argument, nor do we think that he really believes most or many students in experimental science to be like Dr. Benjulia. We rather think that the novelist, looking about him for a subject, seized upon one of the English crazes of the moment to supply fuel for the boiling of his own pot.

He does produce one argument, other than simple abuse, against vivisection, under which name he apparently includes all experimental research. Let us examine it for a moment; it is formulated thus:

"The law which forbids you to dissect a living man allows you to dissect a living dog. Why? There was positively no answer to this. Suppose he said, Because a dog is an animal? Could he, as a physiologist, deny that a man is an animal, too? . . . . Because the dog is the inferior creature in intellect? . . . . But the lower order of savage or . . . . lunatic, compared with the dog, is the inferior creature in intellect: . . . . the dog has, on your own showing, the better right to protection of the two. . . . . Because . . . . a dog is a creature without a soul? . . . . How do you know? . . . . If the law, in the matter of vivisection, asserts the principle of interference, the law has barred its right to place arbitrary limits on its own action—if it protects any living creature, it is bound, in reason and in justice, to protect all." (Chap. XXXII.)

The arguments are hollow, and the conclusion absurd and inconsequent. Even the most determined zoöphilists have not turned vegetarians, and the only one we have

[1] Heart and Science. A Story of the Present Time. By Wilkie Collins.

heard of who says she will refuse to profit in any way by knowledge gained in ways so abominable—we mean Miss Cobbe—has not, so far as is known, attempted to live up to such an absurd quibble as this, and forego therefore her daily beef or mutton.

A practitioner is next presented to us who wishes an opportunity to expose the "false pretences under which English physiologists practise their cruelties." He writes, seeking this chance, a letter to a publisher, in which he is foolish enough to say that there is no "proof that the effect of a poison on an animal may be trusted to inform us with certainty of the effect of the same poison on a man." He instances the insusceptibility of pigeons to morphia. We thought that it had long since been sufficiently demonstrated that the different actions of drugs (we do not know why he speaks only of *poisons*) on man and on animals are matters of degree, not of quality, or are dependent on the differences of habit or of organization. If enough opium be given a pigeon, it dies; it has no immunity from the poison; and it dies with the same symptoms that a man opium-poisoned exhibits. He goes on to speak of the "infernal cruelty" of those celebrated "baking-alive" experiments, and says that they have given us nothing new in the treatment of scarlet fever. Perhaps they have not; but they have greatly added to our knowledge of how fever kills, and what its processes are. With accurate knowledge of how a disease or a poison kills, we stand no longer in the position of the blind man with a club, sometimes striking the disease and sometimes the patient, who represents the physician in D'Alembert's fable.

This wise "practitioner" also insists that it is a pretence that our practice of surgery has ever been improved by experiments on animals. Doubtless he had been educated for a novelist, not for a physician, and had never heard of Sir Astley Cooper's experiments on the formation of bone, or of Cohnheim's on inflammation, or of Hunter's or Heidenhain's on the surgery of tendons, or of how Simpson proved the usefulness of chloroform.

Mr. Collins's doctors are all equally absurd and impossible, unless it be the happily named Mr. Null, who is an excellent portrait of a respectable, stupid, old-fogy, routine practitioner, who might be expected to say, being forty years or so behind with his facts, that nothing had ever come of vivisection.

Were it not for the general public interest in what is called vivisection, this book would call for no notice from us. It is weak, the story is silly, the plot is wanting, the arguments are absurd, and each one of the characters is more impossible than the last. Mr. Collins is well fitted as a special pleader in one way. It is easy to talk on almost any subject if one be not hampered by information. Finally, we repeat it as our belief, and we think it is that of an enormous majority of the medical profession, that scarcely ever has a decided advance been made in medical practice, in surgery, in physiology, in pathology, or in therapeutics which has not either directly proceeded from, or been greatly aided by, experiments on animals.

Much, moreover, as this mode of research has increased our knowledge of curative medicine, still more vast seems the less-explored field which is daily spreading further, for the investigation of what we may do in *preventive* medicine. Naturally it is a matter in which we cannot balance accurately the accounts or formulate the good done, and say, "so much pain inflicted on rabbits = minus;—so much good done mankind = plus." Preventive medicine owes its existence and all its progress to such experiments. We are but just beginning its study, and endless possibilities of good open before us. To make these possibilities probabilities, and these probbilities finally certainties there are are but two ways: one is by the commercial form of experiment on man, which has been tried and found very fatal, many hundreds of years now; the other is by a dozen or so of carefully planned and watched experiments on a few rabbits or guinea-pigs, and then the application of the knowledge thus gained. Let the zoöphilists say, if they dare, they consider the commercial experiment on thousands of men justifiable, and the scientific one on a few rabbits unjustifiable. We shall continue to prefer the latter, and so will every reasoning mind.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, December 4, 1883.

THE PRESIDENT, DR. WILLIAM J. MORTON, IN THE CHAIR.

DR. GEORGE W. JACOBY read a paper upon

NEUROTIC AFFECTIONS ACCOMPANYING JOINT LESIONS.

The history of the subject goes back as far as Hippocrates, by whom it is mentioned. John Hunter was the next to take any note of it, and it is with him that originated the sympathetic theory. Malgaigne, 1826, and within the last ten years, Weir Mitchell, Duchenne, Verneuil, Sir James Paget, and Charcot and his pupils, comprise the list of names that have cast light upon the subject. The experiments of Valtat show conclusively that as a result of injury to the articular, or even to the periarticular tissues, produced by irritant injections, the muscles of the entire limb, but more particularly of the extensors of the joint, become atrophied. The result of the experiment given in the paper, as shown by the autopsy, is that the extremity which was experimented upon lost eighty grammes in weight in twelve days, and that each and every muscle separately weighed less than its corresponding fellow of the left side.

The affections which most frequently follow joint disorders, are paralysis and atrophy of the muscles, and hyperplasia of the subcutaneous connective tissues. More uncommon are anæsthesia, hyperæsthesia, analgesia, hyperalgesia, and neuralgia.

Three groups of nerve functions are implicated, motility, sensation, and nutrition. The symptoms are, after the joint lesion, changes in the appearance of the limb. The extensor muscles are generally involved.

There is a change in the electrical reaction of the muscles, their contractile power is diminished and finally lost. There is no reaction of nerve degeneration, no reversion of the normal contraction formula. This is also most noticeable in the extensors. The paralysis may appear as early as twenty-four hours after the accident—may also appear very late. The hypertrophy

of subcutaneous connective tissue seems to stand in a direct ratio to the atrophy of muscular substance. The atrophy is ascending and progressive; contracture is rare. The disorders of sensation are early symptoms, and differential diagnosis between these affections and progressive muscular atrophy may become difficult.

The conclusions which I am entitled to draw from the notes of thirty cases are: First, that in all cases, except those involving the ankle- or wrist-joint, the muscles affected were the extensors of the diseased articulation. Second, that in those cases which involve the ankle- or wrist-joint, the affection is descending instead of ascending, and that the extensors are not affected to any greater extent than the other muscles. Third, that in cases of arthritis of any of the joints of the fingers, the interossei muscles suffered first and most.

The cases which present particular interest are the following.

Case I.—Mrs. L., aged twenty-four. While walking, slipped and fell, striking her right knee. The joint rapidly increased in size, and was very painful. The following day it was very much enlarged, the patella pushed forward, and fluctuation was distinctly noticeable. The joint affection improved rapidly, but upon the seventh day a distinct paralysis was noticeable. The movement of flexion of the leg upon the thigh was easily executed, but that of extension was performed with great difficulty. Patient could only by the strongest effort produce any contraction of the triceps cruris. As the effusion became absorbed, the paralysis increased, and at the end of three weeks it was impossible for her to extend the leg at all. Atrophy was now well marked, showing a difference of three centimetres in favor of the healthy limb. The gluteal muscles were also involved. The electro-contractility of the muscles was decreased to both currents.

Case II.—This case shows how soon after the injury paralysis and atrophy may ensue. Patient, a laborer, aged thirty-four, was struck upon the left knee, on a Friday afternoon. He applied ice to the joint; the swelling went down. I saw him upon the following Monday, seventy-two hours after the injury, and then a distinct paralysis of the triceps cruris was noticeable, and atrophy was distinguishable upon the following Friday.

Case III.—By this case may be seen how entirely disproportionate the effect may be to the cause. Patient, L. H., merchant, aged thirty. While walking, his left ankle-joint turned, the outer margin resting upon the ground. Notwithstanding severe pain, he continued his walk; used the joint for several hours. When he examined his foot he did not notice any change in the appearance, but it was painful on pressure. After two months, he noticed a slight weakness in the injured leg, which was particularly observable upon going down stairs. Four months after the accident I saw him. His condition was then as follows: His foot hangs with the toes pointing downward, and cannot be brought to a right angle with the leg. He walks upon his toes, and does not bring his heel to the ground. The toes may be easily raised, but they fall back again by their own weight. The interossei of the foot are atrophied. The peroneal muscles, the muscles of the thigh, are also involved. The gluteus maximus is evidently considerably atrophied, for a large depression takes the place of its former prominence. Added to this, severe neuralgia of the sciatic and peroneal nerves rendered a condition almost unendurable.

The pathogenesis of the affection is still a disputed one. The sympathetic theory of Hunter; the pressure theory of various writers; the theory of functional inertia; then that of Vulpian, which is reflex; and finally those of Decosse and Charcot, are all incapable of satisfactorily explaining all of the cases.

The treatment, in order to be successful, must be varied, and adapted to each special case. The chief agents at our disposal are electricity, massage, mechanotherapy, and hydrotherapy in the form of hot and cold douches. Massage, in very many cases, seems to deserve preference to the electrical currents. The effects producible by massage are: (1) The diffusion of any articular effusion. (2) The comminution of vegetation. (3) The loosening and destruction of adhesion. (4) Increase of circulation. (5) Stimulation of muscular fibres.

In fact, all the agents above mentioned seem to act similarly by stimulating the nutrition of the affected muscles, by increasing the flow of blood to the parts and perhaps thus causing a reflex excitability of the motor tracts.

DR. CHARLES FAYETTE TAYLOR said: This is a subject with which I have considerable familiarity, as all persons who are extensively engaged in the treatment of joint affections must have, but it is too large even to touch upon, in many of its aspects, in the limited time at my disposal to-night, even if I had prepared myself for such a discussion by having previous intimation of the direction it would take. I should prefer to have the subject arranged before speaking of it, especially as I shall be obliged to differ from the essayist, both as to the pathology and treatment of the neurotic disturbances attending or following joint diseases of the character which he has set forth in the paper. In regard to the pathogenesis, I do not think it is necessary to adopt any peculiar theory, or to assume that even any special deviation from the ordinary course of nerve function takes place, in order to account for all the facts observed in these cases. The difference is one of degree only. A person is attacked with inflammation of the knee-joint, for instance. This is rapidly followed by diminished size of the muscles controlling the action of that joint, with diminished and sometimes even with entire loss of muscular action. But loss of muscular action is by no means evidence of loss of muscular power. The nerve-centres are unquestionably affected; but, most of all, the cerebral nerve-centres are the seat of the greatest disturbance. No theory can be adequate which leaves the cerebral nerve-centres out of the account, and the consequent mental element which plays, in my opinion, so important a part in these cases. The simple loss of muscular action, consequent on an attack of inflammation of the knee-joint, is sufficient to account for an immediate diminution of the size of the muscles whose freedom is curtailed. This is the certain result from mechanical restraint alone. But if, besides the mechanical restraint of position or retaining apparatus, there is added the mental restraint of fear, the difference in the rate and amount of muscular atrophy is enormously increased. Mental restraint acts similarly to an Esmarch's bandage; it squeezes the very life out of a muscle. As a very simple proof of the remarkable effect of mental restraint in causing muscular atrophy,

let me mention those frequent instances accompanying disease of the hip-joint. These cases often apply with limbs attenuated to the last degree. That a large portion of the muscular attenuation, accompanying somewhat long-standing hip-joint disease, is due to the mental restraint of motion, which might cause suffering, is proved by the fact that the application of proper mechanical protection, by which the mind is relieved of the fear of pain, is followed by immediate increase of muscular growth. This is so common and well known a fact that advantage is constantly taken of it, in the management of cases. My observation of the effects, on the muscles, of joint diseases must amount to some thousands of cases, and I never saw a case of atrophy which, in my opinion, could not be perfectly explained by non-use and mental restraint.

In regard to the therapeutics of muscular atrophy and loss of action following joint disease, I fear I must differ from the essayist quite as widely as in its pathogenesis. So far as the muscular wasting has been caused by non-use during the progress of the arthritis, it is sufficient to set them to work again after the inflammation has subsided. And I may say, in passing, that muscles stubbornly refuse to act, or, if forced to act, they as stubbornly refuse to develop during the progress of an arthritis. You must wait until the joint is well before you can expect the muscles to act readily enough, after there is no longer any joint affection, except for the restraint which is often maintained for a long time by mental impressions formed during the progress of the arthritis. It is astonishing to notice how deep and lasting the impressions made on the cerebral nerve-centres may sometimes be. Whatever the treatment adopted, I do not believe it can be of any direct service as long as there continues a mental restraint over the muscles, and it is equally true that whatever will remove such mental restraint will cure the atrophy. So important do we, in our practice, consider the mental influence over the muscles attending and following joint diseases, that we take special pains to get and to keep the direction of that influence for the very purpose of hastening the recovery of the muscular power after curing the joint disease. But the object of treatment should be to divert the mind from the affected member rather than to keep up attention to it by local treatment. It is true that massage will sometimes seem to do much good to the atrophied muscles; but this is apparent and indirect rather than real and direct. Massage has elements of mental diversion and control, which may be properly and usefully employed. But with a large experience in its use, I am free to say that I think it is very much over-estimated as a direct therapeutic agency. Its direct effect on the muscles is very slight, and what there is, is not exercise. Exercise involves nerve action as the initial force. Massage merely assumes to promote the forward displacement of a certain small portion of the tissue fluids. But such propulsion of the fluids contained in the soft parts, even if effected, is not exercise nor a rational substitute for exercise. Only by the legitimate use of the nerve-centres, especially of the cerebral nerve-centres, can there be any action deserving the name of exercise. To regulate such nerve-centre function when disturbed by the strong impressions made by joint inflammation, is the indication presented in the cases under discussion. In most cases time alone is sufficient. In others any means which effects a diversion of attention, whether done to the affected member or at a distance from it (which is the safer plan), will effect a cure. Incidentally, massage, electricity, the manipulations of the so-called "bone-setters," as well as the "animal magnetism" of the more arrant quacks, all appear to produce wonderful results in a certain number of cases. The results are real, but are not produced through any direct effect on the parts, but through the incidental impressions made on the cerebral nerve-centres—that is, on the mind. The worst of it is that in a large number of these cases direct treatment to the part affected by the mental restraint tends to increase the mental impression and to postpone indefinitely that unrestrained action of the muscles by which alone they can regain their power. The most difficult cases within my experience have been those who have had their attention to the affected member kept up by too much local treatment after the joint inflammation had passed away.

DR. L. WEBER had seen some cases of muscular atrophy following joint disease, and remembered one in particular which may be of interest to the Society.

Mr. J. W., age 32, merchant, of nervous temperament, but strong and active, made a tour through Switzerland in the summer of 1870. Being a good pedestrian, he travelled mostly on foot, but after a severe Alpine tramp in the upper Engadin, he was taken with synovitis of the right knee-joint. When the effusion had passed away, the extensor muscle above the knee had wasted considerably; the patient was unable to walk, and reached New York with difficulty. On examination, the joint was found to be in good order again, but the atrophy of the extensor muscle was still very marked, and the patient, by the support of a cane, walked, but not without difficulty. A four weeks' course of faradization made no appreciable change; and although he was assured that he would regain the use of his limb completely in the course of time, he was not satisfied, but grew despondent, and finally left for Europe to consult Prof. Erb. The latter told him the paralysis was not in his limb, but in his mind; that he should go about, and exercise, and live well, and he would soon regain the full use of his muscles. He followed the Doctor's advice, and returned to New York early in the spring of 1880 in perfect health. As to the pathogenesis of the disorder, the Doctor believed that the muscular paresis and atrophy in the case reported, and in others of a like manner, are of reflex origin, and that functional disturbances of motor centres in the brain, and not in the spine, are probably the cause of the trouble.

Of massage and its effect in such cases, as reported by the author of the paper, he had no personal experience, but had seen excellent results from its proper application in subacute joint diseases, muscular rheumatism, and bad sprains.

DR. E. C. WENDT said that the paper had brought out several points of interest, especially as regarded etiology, symptoms, and the hopefulness of treatment. He was sorry to find, however, that the reader had nothing new to offer in explanation of the pathogenesis of these conditions. Admitting the correctness of Sappey's views concerning the richness in nerves of the articular and periarticular tissues, it certainly seems thoroughly puzzling why acute polyarticular rheumatism

was not more frequently followed by just such accidents as Dr. Jacoby has described. Again, those more chronic joint manifestations dependent upon the gouty diathesis, where profound structural alterations were frequently observed, only quite exceptionally led to atrophy, paralysis, and to other neurotic disturbances alluded to.

Upon these points he was sorry to find that the paper under discussion left us as much in the dark, as we had been before.

With regard to massage, although his experience was limited, it was yet sufficient fully to convince him of its utility in certain cases. Of course there is massage and massage, but when properly and systematically applied, it is useless to dispute its beneficial action. The combined experience of a large number of competent men placed its usefulness beyond the pale of doubt.

DR. HEITZMAN said: When I was a student in Vienna, a girl, twenty-five years of age, fell down stairs and acquired serous gonitis, after which she was paralyzed and confined to her bed for five years. She was sent to a water-cure. A physician there urged her to walk, in order to enable him to judge of the degree of the disease, but she began crying, and said she was unable. She went home in despair; her sister asked her to make at least an effort to walk. After considerable urging she got out of bed and walked. This illustrates that mental influence has much to do with these affections.

I would call the attention of Dr. Jacoby to an article by Dr. Nicoladoni, published in 1871, in the *Wien. med. Jahrbücher*. I have seen his specimens with the nerves brought out by the use of chloride of gold, and from my observation I am convinced that these terminal nerve-fibres are not stable and unchangeable formations, but that, on the contrary, new nerve-fibres may form at any time of life from the living matter present in all tissues. I am thoroughly convinced that nerves may disappear and appear, according to certain physiological necessities, certain physical conditions of the body, such, for instance, as the result of exercise.

In an inflammation of a joint, the synovial and capsular wall being the seat of pathological changes of the breaking down of the tissue, certain nerve-fibres of the sensitive sphere will be within its range, and we should know that a certain number of them perish altogether.

Dr. Jacoby, to-night, did not give a theory of his own, but he quoted various authors. It certainly was the best plan for him to pursue, as so very little is known, even in our day, about nervous action. We know that by the inflammatory destruction of a number of sensitive nerve-fibres in the capsule of the joint, at once three spheres are involved: the motor, for there is paresis or paralysis; the sensory, for there is pain; and the vaso-motor, or trophic, for there is emaciation. So far as my insight goes, I am convinced that the living matter in a vehicular arrangement produces the gray matter and all essential portions of nerves, including the axis-cylinder. This fact is thoroughly acknowledged by Prof. Stricker, at Vienna. There may be loss of living matter of certain nerves in consequence of inflammation and loss of contractil with impaired conduction towards the centre. We then have comparative rest in a limited portion of the spinal cord, or even the brain, for the reticulum of living matter is set at rest for a time, without there being a material change in the living matter of the gray substance and ganglionic elements.

If massage will reëstablish the activity of muscles, we are prepared to understand that the field in the spinal cord, before out of action, may at once be brought in motion, and the motion communicated at once to the motor ganglia and all the sympathetic centres, which are situated along the spinal cord, as physiologists agree upon. The nervous action may for a certain time be impaired or dulled, because the reticulum of living matter is in comparative rest, lacking an impulse from without. So soon as such an impulse is carried to the resting portion, either by mental action, energetic will, or by mechanical shock, such as is done in massage, or in any other way, the contraction of the living reticulum is induced, and the normal condition reëstablished. Neither the assumption of centripetal neuritis nor the theory of reflex action can explain the phenomena observed after the inflammation of articulation and their sometimes speedy cure.

DR. HENRY LING TAYLOR said: I can contribute a case showing the beneficial effect of the use of the body-battery. A woman, under the care of Dr. J. West Roosevelt, at the Roosevelt Hospital Dispensary, of middle age and neurotic personal and family history, presented, among other symptoms, that of a prickling sensation down right arm and in right hand. There was no joint trouble. Dr. Roosevelt and I regarded it as one of the neurotic disturbances incident to a person of her temperament. The body-battery was tried for its psychical effect, and the woman returned in two days with the abnormal sensations gone. The symptoms had lasted a considerable time. The same treatment was applied to the hand without effect during the week, and she has since been under observation. I regard the result in this case as entirely due to mental influence.

Before concluding my remarks, I wish to speak of an interesting class of cases, alluded to by Dr. Gibney—the pseudarthroses. We have in these cases nearly or quite all the symptoms enumerated by Dr. Jacoby in his paper; atrophy, hyperæsthesia, or anæsthesia, etc., following mental restraint, there being no affections of the joints. I regard the trouble as functional, and seated mainly in the brain, and not in the spinal cord, as Dr. Gibney believes, if I understand him. Almost anything calculated to make a profound impression on the higher nerve-centres will often prove curative in these cases. This is, in my opinion, one of the most important effects of massage.

I have in mind three cases of ankle trouble following sprains, seen three to five months after injury. The acute symptoms had subsided; but pain, tenderness, and such impaired function as to cause limping persisted. These patients had been treated with supports, etc., for several months. Physical examination showed no local trouble not readily explained by mental inhibition. There had been recovery from the sprain without a corresponding readjustment of the nerve-centres to the new condition.

The patients were perfectly and rapidly cured by purely psychical treatment. I do do not doubt that massage often accomplishes the same result, through its psychical effects, in similar cases, but it is an empirical method as generally employed.

DR. GARRIGUES said: What little experience I have had with massage is in its favor, but that is almost

nothing compared with that of Dr. Taylor. Nevertheless, I have used massage for ten or twelve years. I became acquainted with it when it was quite new, and have found it most excellent for secondary conditions, and for treatment to which Dr. Jacoby alludes.

DR. MORTON said a few words upon the subject of the continuous body-battery and its use; the battery consists of a simple pair of elements. He recalled a case in which he used this with good effect. A gentleman came to him with chronic arthritis; associated with it was paralysis of the extensor group of muscles; the foot was dropped, and the toe dragged. He said no form of electricity that he had tried had done him any good. He gave him a battery which he could wear all the time, which consisted of pieces of silver and zinc, connected by copper wire. The zinc was shifted about upon different parts of the body; a constant current was kept up, which could be tested at any time with ordinary litmus paper. While under alkaline treatment the battery worked with better results, the excretions being saline. This battery is also useful in the treatment of chronic ulcers; the granulations formed will be found much more healthy. It is also beneficial in chronic eczema.

DR. GIBNEY said that at times it is very difficult to determine whether the atrophy precedes or follows joint disease. It is his opinion that it is more frequently the accompaniment of epiphysial disease than joint disease proper. And he wished to emphasize the fact—for a fact it was according to his observations—that the majority of grave lesions about joints in childhood was epiphysial; in other words, a chronic epiphysitis. Synovial disease he believed to be rare. If one examined a hip, for instance, said to be the subject of disease, marked atrophy is usually found in the thigh and calf muscles long before any pronounced joint symptoms are presented. The atrophy, he further stated, is confined to the muscles, and not to the bony tissue; for it is a rule that in chronic epiphysitis, about the knee for instance, that the epiphysis is actually elongated. He, in common with many other orthopædists, has long since regarded acute atrophy as one of the most constant signs of chronic articular ostitis; and he believed the atrophy to be purely reflex, and not the result of disease, or of the pressure from apparatus or bandages.

One argument brought against mechanical treatment, viz., that atrophy was produced, is fallacious. The clinical history of these bone lesions proves this conclusively. He was not sure whether chronic synovitis induced atrophy; but he was very positive in stating that in acute synovitis atrophy was rather the exception than the rule.

A class of cases presented certain neuroses which were very valuable in excluding bone or joint disease. These are known as spinal pseudo-arthropthy; and known furthermore as neurosis of the joint, neuro-mimesis, hysterical joints, Brodie joints, etc. The neuroses referred to were neuralgia, hyperæsthesia, and anæsthesia, but rarely any atrophy. He believed that they had their origin in the spinal cord and in the meninges; and the readiness with which they responded to spinal treatment confirmed him in his belief. Furthermore, the neuralgia of chronic ostitis of the hip is well known, and the knee-branch of the obturator nerve is affected early, and often very late, in the disease; although this is denied by some writers, and especially a recent writer, Dr. Clippingdale.

In some of the most advanced cases of caries of the hip, this obturator neuralgia is very distressing. Very frequently the sciatic nerve is involved, and in some cases, one especially narrated in a young lady with old disease at the hip, the sciatica was most distressing and yielded very poorly to drugs and electricity. The question of paralysis and degenerative nerve changes being sequences of chronic arthritis was one of which he did did not feel fully convinced.

He referred to a case of chronic arthritis of the knee, in an old woman who had paralysis of most of the muscles of the thigh and leg, and it was thought by some who saw the case that the paralysis was dependent on the joint lesions, but the proof was not by any means conclusive.

DR. JACOBY, in concluding the discussion, said: The first point to which I desire to reply is that brought forward by Dr. Taylor. He said that he believed these nervous changes, particularly the paralysis and atrophy, were produced by psychical or mental influence, and that they might be relieved by attention to this point. I am at considerable variance with him as regards the effect that mental influence has in the production of these disturbances. I, for my part, cannot understand how mental uneasiness can produce an atrophy, which is easily diagnosed by the tape, of a certain muscle, and that in the short time of three days. But, as the Doctor has promised us a paper upon this subject, perhaps that will succeed in convincing me.

As regards the opposition which the massage treatment has received, I expected it would receive more. Massage has, especially in the United States, been very much in the hands of non-professional men, and consequently has been greatly abused and misapplied. But I hardly think there can be any question as to its efficacy in suitable cases, when properly applied.

The theory advanced by Dr. Heitzman, is very similar to that of Prof. Charcot, who, as I mentioned in the paper, believes that certain parts of the cord are in a state of inertia or stupor.

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Stated Meeting, December 5, 1883.

THE PRESIDENT, ALFRED STILLE, M.D., IN THE CHAIR.

DR. JOHN H. PACKARD presented the following report of a

CASE OF ABDOMINAL TUMOR, SOMEWHAT RESEMBLING PREGNANCY, IN A YOUNG MARRIED WOMAN.

Mrs. G., æt. 21, a very delicate-looking woman, consulted him July 21st in regard to a slight and uniform abdominal enlargement, which had been first noticed by her shortly after her marriage, about three months previously, and had been gradually and steadily increasing. She menstruated regularly every month, and had had no nausea. Neither the breasts nor the nipples showed any change from the virgin state. There was no tenderness at any point in the abdomen, and the appearance and feel of the swelling were very much such as would be presented in the early stages of pregnancy. The os uteri was soft, and the cervix was of some length;

but there was a bulging above, as if the uterus contained a mass partly solid and partly liquid. He did not think it right to introduce a sound, as, in spite of the absence of rational signs, the presumption seemed to be in favor of pregnancy. Against this one fact seemed to militate, viz., that she rather lost than gained flesh. I declined to express any opinion as to the character of the swelling, but told the husband that my hope was that the case would prove to be one of pregnancy, as it was likely otherwise to be very grave.

The swelling continued to progress steadily, and on Sept. 13th she presented the appearance of being at about the middle of the fifth month of gestation. The hypogastric pain troubled her greatly, and was only allayed for a very short time after each application of chloroform liniment.

Dr. Ellwood Wilson saw her in consultation on Sept. 15th. In the forty-eight hours between the previous visit and this one, a very marked change had taken place. The abdomen had become greatly enlarged, its walls forming one curve from the ensiform cartilage to the pubes; there was very decided fluctuation, and percussion showed an area of dulness which was attributed by Dr. Wilson to the existence of a cystic tumor connected either with the Fallopian tube, or with the broad ligament. A sound was introduced into the uterus, the cavity of which was found to be unoccupied. On the 17th, more than a gallon of ropy, yellow liquid, somewhat deeply tinged with blood, was removed by aspiration; the flow then ceased, and the end of the canula encountered a solid substance, apparently a septum of considerable thickness. Upon the withdrawal of the instrument, a fresh flow took place, the liquid spouting out from the orifice to a distance of several inches. When this subsided, the abdomen, which was much less tense, was covered with raw cotton, and a bandage carefully and firmly applied.

In the evening the temperature rose to 103.5°, but before morning it fell to about 100°. The wound in the morning was found closed. The following evening the temperature again rose to 103.5°, but subsided again before morning, and was not thereafter above 99°. Yet her condition was unsatisfactory; her face was much pinched and anxious; she had very little appetite; at times her mind wandered slightly, and she slept but little. Vomiting occurred frequently, and she was seldom free from nausea. Her bowels acted regularly; her urine was free, and normal in every respect. Her pulse varied, but was generally from 110 to 120.

A portion of the liquid was submitted to Dr. H. F. Formad for examination, and his report, which was not received until some time after the case had terminated, was: "I think it very doubtful that it comes from an ovarian cyst, the fluid showing very little epithelium, and very few of the ovarian cells of Drysdale."

Sept. 23d her condition was very much more favorable; her mind was composed and even cheerful, her pulse and temperature good. Some food had been taken and retained.

On the 24th her state was much the same, and it was thought proper to entertain the idea of an operation for the removal of the supposed ovarian tumor. In the afternoon, Dr. Agnew saw her with Dr. Wilson and myself, and it was decided that the attempt should be made on the following day.

Accordingly, on the 25th, the abdomen was opened by an incision in the median line. After dividing the wall Dr. Packard came to what seemed to be a cyst, and passed in an ovariotomy trocar, when a very free evacuation of liquid, straw-colored and ropy, but clear, took place. It was now apparent that the liquid was contained in the peritoneal cavity, and that there was a large solid mass lying among the intestines. This tumor was soft and doughy, like a placenta; it seemed to belong to the mesentery, since although somewhat movable, it was firmly attached to the posterior wall of the abdomen, rather high up. The surface of the mass having been slightly lacerated, there was somewhat free bleeding, which was checked with some difficulty by ligation with carbolized catgut, and by the application of a cautery-iron. The wound was now closed with two large pins and a ligature cast around them, and with metallic sutures; a sheet of raw cotton was applied over the whole belly, and secured by a bandage. The patient rallied considerably, and after the effects of the ether had passed off, became quite sensible; but she soon began to sink, and died on the 27th, about forty-eight hours after the operation.

No autopsy could be obtained, so that the exact nature and connections of the tumor must remain matters of conjecture.

The notable points in the case now detailed seem to be the occurrence of a solid tumor, probably of malignant character, and apparently connected with the mesentery, in a young woman recently married; its resemblance in its physical appearances to the pregnant womb; the very sudden change that took place by a fresh effusion into the peritoneal cavity, and the obscurity which even then existed as to the real nature of the case. Even with the most accurate diagnosis, effective treatment would have been out of the question, and Dr. Packard cannot but think that his suspicion of pregnancy, erroneous as it proved to be, really prolonged the patient's life, which would have been almost necessarily sacrificed by earlier interference.

RHODE ISLAND MEDICAL SOCIETY.

Semi-annual Meeting held at Providence, Dec. 20, 1883.

THE Society met at 10 A.M. THE PRESIDENT, DR. JOB. KENYON, in the Chair.

DR. S. S. KEENE reported for the

BOARD OF CENSORS,

that Clarence Miles Godding, M.D., and Philip K. Taylor, M.D., having passed a satisfactory examination, were recommended for Fellowship. The two applicants were subsequently elected by unanimous votes.

The report of the committee on the subject of

ABOLISHING THE CORONER LAW

in Rhode Island, and substituting for it the office of medical examiner, was presented by DR. LLOYD MORTON, of Pawtucket.

The Committee recommended that another committee be appointed to see that the draft of a law, which the committee offered, is properly presented to the general Assembly at its coming session, and to adopt such

measures as may seem judicious and necessary to secure its passage.

The bill, as framed, provides that the Governor appoint in all twenty-two *medical men*, to serve as medical examiners in the respective districts into which the State is to be divided for this purpose. The term of service to be six years, unless removed for cause. A bond of two thousand dollars to be required. The fee for viewing a body is four dollars; for the same with autopsy, thirty dollars. Travelling fees, to go and return, at the rate of thirty cents a mile. Examinations to be made of such deaths as are suspected to be due to violence or crime. If, in the opinion of the medical examiner, death resulted from natural causes, the body is to be simply delivered to the friends for burial; but if a crime has been committed, the case then goes into the charge of the judiciary. In the many sections of the draft, careful provision is made relative to the matter of autopsies, chemical analysis, the subpœna of witnesses, etc.

DR. ARIEL BALLOU made a few explanatory remarks, after which it was voted to accept the report of the committee.

DR. MORTON explained further that by the new draft the medical examiner would have no *legal* authority whatever.

DR. BALLOU expressed his belief that the old English coroner law was the best; but owing to the poor quality of men now serving as coroners, we have been mortified at its working at the present time. Men are needed who are conversant with criminal law and able to ferret out the perpetrators of crime. The draft of a law now submitted separates the medical from the judiciary part of the investigation, the function of the medical examiner being simply to develop the evidence.

It was then voted to add the name of the President, Dr. Kenyon, to the committee already constitued, and that, thus augmented, the same committee be empowered to present the draft before the general Assembly.

DR. D. H. BATCHELDER then read a long paper on the

PATHOLOGY AND TREATMENT OF INFLAMMATION.

He thought the real, primary *cause* of the phenomenon called inflammation was as yet unknown. Also that in case of active inflammation of the brain, heart, or lungs, venesection was the most rational and best treatment. He cited one case in point: he was called in consultation to see a man suffering intensely from acute, primary carditis. The patient's agony was extreme, and had been for hours. The attending physician had tried all the reputed cardiac sedatives and innumerable external applications, with no avail, and death seemed imminent. Dr. Batchelder advised venesection, and at once took ℥xxx of blood from the man's arm. No relief followed for half an hour, when he took ℥xx more; still no relief; and he bled him again to the extent of ℥xl, when the patient looked up and said he felt better. In all, ninety ounces of blood were taken. The man recovered.

DR. H. TERRY reported

A CASE OF TUBAL PREGNANCY

that occurred in the practice of Dr. A. D. Weeks, of Providence.

The woman, aged thirty-two years, had been married two years. She had one child eleven months ago, the labor then being an unusually easy one.

Believing herself to be two months pregnant for the second time, and in good condition, so far as she knew, she was seized at four P.M. with dull pain in the *right* ovarian region, with vomiting and faintness, which lasted half an hour. The dull pain continued, but she was about the house until seven P.M., when she fell into a state of collapse, with imperceptible pulse, shallow respiration, but clear intellect, which continued until death took place at eleven P.M. An autopsy found the abdominal cavity filled with partially clotted blood, the right Fallopian tube ruptured, and the fœtal head engaged in the torn orifice, of which the margins were very thin. Chorionic villi and a partially developed placenta were found in the uterine cavity. Only *one* corpus luteum was found, and that was in the *left* ovary.

On being asked to explain the presence of a single corpus luteum in the *left* ovary, whereas the fœtus had developed on the opposite side, Dr. Terry replied that one of three things *must* be true—either (1) the fimbriæ of the right Fallopian tube grasped an ovum from the *left* ovary, or (2) an ovum from that ovary crossed over to the *right* Fallopian tube, or else (3) the established theory regarding the connection between ovulation and impregnation must be incorrect.

ANEURISM OF THE THORACIC AORTA.

DR. CHARLES O'LEARY reported the case of a man, thirty-four years old, who died on the 14th inst. About four years ago he began to complain of severe pain in his back, and this symptom continued up to the time of his death. Last summer strong pulsation was discovered in the left lumbar region, but no bruit was audible. The man was examined by Dr. Alonzo Clark, of New York, who made no positive diagnosis, but was of the opinion that the pulsation was due to the cardiac impulse being transmitted through some solid medium, the nature of which was undetermined. Several other physicians concurred in this opinion. At times the patient suffered agonizing pain, requiring the use of large amounts of morphia hypodermically. Four days before his death he began to have pain in the left knee and along the course of the sciatic nerve. His death was finally caused by a convulsion. An autopsy revealed an aneurismal sac, branching off from the left side of the thoracic aorta just above the diaphragm and extending down along the course of the psoas muscle to the lower lumbar region. This sac was full of clotted blood, and had caused almost complete atrophy of the psoas muscle, and extensive erosion of the eleventh and twelfth dorsal and first, second, and third lumbar vertebræ.

THE LIBRARY.

DR. G. W. PORTER announced that arrangements would soon be completed for keeping the Medical Library open from 2 to 6 P.M., in addition to the plan now in vogue of a single hour from 12 to 1 P.M. Also that a telephone had been placed in the library.

The Chair then named the following

DELEGATES

to the meetings of other State medical societies:

Massachusetts.—Drs. Brown and Ham.

Connecticut.—Drs. F. B. Smith and Levarts.

New Hampshire.—Drs. Fisher and Ballou.
Vermont.—Drs. Leonard and Luew.
New York.—Drs. Baker and Caswell.
Maine.—Drs. Porter and D. O. King.

The President then invited the Fellows to a lunch at Ardoene's. Adjourned.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 14, 1883.

THE PRESIDENT, DR. T. A. RODGER, IN THE CHAIR.

SYPHILITIC CARIES OF INNER TABLE OF SKULL; GREAT THICKENING OF CALVARIA; COMPRESSION AND DEFORMITY OF THE BRAIN.

DR. OSLER exhibited the skull-cap and brain. The patient, a woman, aged thirty-five, had died in the General Hospital, under the care of Dr. Godfrey. She had been an inmate of the institution many times during the past six years, with various manifestations of syphilis: had extensive necrosis of right tibia, and for fully two years had had a small open sore on right parietal bone. In November she was admitted with severe headache and debility. The headaches had troubled her for some years, were nocturnal, but latterly constant, and chiefly on the right side. There was a discharge from the sore over the parietal bone, and a probe could be passed through a small sinus which led beneath the dura mater. There was abundant highly albuminous urine, and amyloid disease of the kidneys was suspected. She was rather a dull, stupid woman, but during her last stay in hospital the intellect was clear, and there was no motor disturbance. A few days before her death the nurse noticed her to be unusually dull, yet irritable when spoken to. The right tibia had healed with extensive hyperostosis and deformity.

The external surface of the skull-cap was smooth, and on the right side, close to the coronal suture, there was a small sinus through which a Bowman's probe could be passed. On removing the calvaria, which was moderately thickened in the supra-orbital regions, a quantity of thick pus escaped. The dura mater was thickened, and strongly adherent posteriorly. The internal surface was smooth, and did not present any adhesions. As shown in the specimen, the disease is confined to the contiguous surfaces of skull and dura over the frontal and part of the parietal regions. The inner aspect of the bone in these parts is rough and carious, having an eroded, worm-eaten appearance, and covered in places with granulations; and towards the parietal bone, firm, solid fibrous masses unite it to the dura. The upper half of the frontal and the greater part of the parietal bones are thickened, measuring from two to three centimetres, and are exceedingly dense. The outer surface of the dura mater shows numerous soft granulations springing from solid fibrous tissue. The falx in its anterior half is thickened, and the longitudinal sinus is in this part obliterated. The brain showed no trace of coarse disease; the arachnoid was a little opaque, but the pia mater was normal. The hemispheres were curiously deformed from the pressure to which they had been subjected by the thickened bone and dura, and the pus between them. They are wedge-shaped; the base is at the occipital lobes, where the greatest vertical height is eight centimetres, and the apex is at the orbital margin of the frontal lobes, where the height is only two and a half centimetres. This curious deformity has been brought about slowly, and illustrates the degree of pressure to which the brain may be subjected, so long as it is applied gradually.

DR. HENRY HOWARD referred to the remarkable absence of cerebral symptoms in such extensive compression.

DR. OSLER also exhibited a skull, from the museum of McGill College, with syphilitic destruction of the entire right parietal and part of the frontal bones, with caries also of the inner table.

EPITHELIOMA OF TONGUE; EXCISION; ERYSIPELAS; CIRCUMSCRIBED GANGRENE OF LUNG; PERFORATION OF BRANCH OF PULMONARY ARTERY.

DR. SHEPHERD narrated the case and showed the specimen. The patient, aged forty-two, had had a portion of the tongue removed in May last for cancer, and was readmitted to the hospital early in November with recurrence in the stump and on the right tonsil and anterior pillar of fauces. On November 10, the entire organ was removed with the scissors, after ligation of the linguals. The affected tonsil and anterior pillar were also taken away. For five days the man did well; there was no fetor, and the wounds made for ligature of the linguals were healing, when, on the 15th, erysipelas appeared on the nose and spread rapidly over face, head, neck, and chest. Temperature 103° to 104°. Pulse 120. The mouth wound became sloughy. This condition persisted without special change until the 27th, when the breath became fetid and a cough developed with indications of septic trouble in the lungs. No rigors or sweats. From this time he became gradually weaker, and on December 2, died suddenly of profuse hemorrhage from the lungs. Dr. Shepherd referred to the advantage of previous ligation of the lingual in facilitating complete removal of the organ; with the scissors an almost bloodless dissection could be very readily made. At the autopsy the wound in the mouth looked in process of healing, and the cancerous masses had been entirely removed. The linguals presented thrombi at the site of ligature. There was a small pocket of pus beneath the left sterno-mastoid. The trachea and bronchi were filled with blood. The right lung presented four areas of circumscribed gangrene, the left two, each about the size of small apples. Placing the lung under water and blowing air through the pulmonary artery, bubbles escaped from one of the gangrenous regions close to the root of the lung. Dissection proved, as the specimen shows, that the hemorrhage came from a small branch of one of the main divisions of the artery, which had been opened in the necrotic process.

DR. ROBERT PALMER HOWARD spoke of the frequency with which gangrene of the lungs followed operations on the tongue and neck.

SARCOMA OF LUMBAR GLANDS; PERFORATION OF THE COLON; PERSISTENT HEMORRHAGE.

DR. SHEPHERD presented the specimen and gave the following notes: "Man, aged forty-five, large, strongly built, weighing over two hundred and fifty pounds, sent for him on July 23d, and stated that he had been seized in the night with severe pain in the back and abdomen.

The temperature was 103°, pulse 120; tongue coated; great tenderness of abdomen, with fulness in left iliac region; no vomiting; bowels had been opened several times in the night. In the evening he was worse. Temperature 104°; pulse 120; great abdominal distention with tenderness. On the 25th the temperature was normal, but the abdominal symptoms persisted, and there were diarrhœa and frequent vomiting. On the 29th he had a severe rigor, with temperature of 104°, and profuse sweating; tympanites and pain, with evidences of peritonitis. In a day or two he had another rigor, with severe vomiting and diarrhœa, and great abdominal distention. Dr. Ross saw the patient in consultation, and the conclusion arrived at was, that there was local suppuration deep in the iliac region. His condition at this time was very bad; pulse weak; vomiting incessant. With champagne and careful feeding the vomiting was checked, and he began to improve slowly, until in the early part of September he was able to move about the room. There was still fulness on deep pressure in the left iliac fossa, but the thick layer of fat prevented a satisfactory examination.

"About September 10th he began to pass a small quantity of blood—bright red—with the stools, and this increased until the daily amount was often as much as half a pint, and he became very anæmic. In the month of October he again took to bed; had severe rigors with high temperature and sweats, about every other day. At this time a tumor was made out in the hypogastric region, deep in the abdomen, fixed, solid, and not tender on pressure. Rectal examination negative. The loss of blood continued, and he got much weaker, and death took place on November 20th, after a profuse hemorrhage. The tumor had increased in size, and a week before death it seemed about the size of a child's head, and firmly fixed in the hypogastric region. The autopsy showed matting together of the coils of intestine with old peritoneal adhesions, particularly near the pelvis. The tumor was in front and a little to the left of the lumbar spine, and the sigmoid flexure was firmly united to it. The mass was readily turned out, and dissection revealed an extensive perforation of the bowel, as the specimen shows, and exposure of soft sloughing masses of the tumor. The wall of the colon was defective in an area two and a half by one and a half inches. The growth was a sarcoma of the retroperitoneal lymph glands. There were no secondary tumors, and nothing of note in the viscera. The persistent hemorrhage for over two months, had evidently come from the vessels of the exposed and sloughing part of the tumor. The repeated rigors were difficult of explanation; there evidently had been peritonitis, but whether local suppuration had occurred was not so clear, possibly it had in the process of perforation of the bowel."

DR. ROSS remarked that he had seen the case several times, and it had offered considerable difficulty in the way of diagnosis. The amount of abdominal fat prevented a satisfactory examination, and the fulness in the iliac region was thought to be possibly a focus of suppuration. Later on, when the hemorrhage occurred, and a more evident tumor could be felt, the diagnosis was made of malignant growth, and from the situation and size, probably retroperitoneal and involving the bowel.

SMALL TUMOR ON NERVE; INTENSE BRACHIAL NEURALGIA; REMOVAL, WITH CURE.

DR. SHEPHERD presented a microscopic section of a small tumor the size of a bean, which he had removed from a man's arm for painful neuralgia. The patient, a thin, nervous man, stoker by occupation, was admitted to hospital complaining of severe pain in the left arm—so bad that he could get but little rest at night. His appearance was that of a man suffering intensely. The pain was more severe at times, and was situated at the insertion of the deltoid, and from there ran down the back of the arm to the elbow. He also had numbness along the ulnar nerve. Just below the posterior fold of the axilla, internal to the brachial artery, a small nodule the size of a bean was felt, which on pressure caused agonizing pain. Dr. Bell admitted the case as one of neuroma. Dr. Shepherd had removed the growth, which was found connected with a small nerve, and closely united with the cellular tissue at the back of the artery. The man has had no pain since the removal, three days ago. The section of the tumor showed a fibrous capsule, and a small, angular-celled growth inside.

A report on the nature of the tumor was requested for the next meeting.

CORRESPONDENCE.

SUDDEN DEATH DURING OR SOON AFTER CONVALESCENCE FROM DIPHTHERIA.

To the Editor of THE MEDICAL NEWS.

SIR: I would be glad to add another case of sudden death during or soon after convalescence from diphtheria to those reported by Dr. J. Ferguson, of Toronto, Canada, in the issue of THE MEDICAL NEWS of December 15, 1883, page 649. The following case occurred in my practice in May, 1876.

F. B., a bright little boy of seven years of age, had, May 20, 1876, all the prodromal symptoms, which developed on the third day into an apparently mild type of scarlet fever. The fever was not high, the eruption comparatively light, and there was nothing manifested in the symptoms to indicate anything of a serious nature except the throat, which was intensely red and swollen, the tonsils and half arches so approximated as to shut out the view beyond, and here and there appeared specks of gray deposit of a suspicious character, and evidently portending danger.

The scarlatinal symptoms gradually subsided, but the throat symptoms increased in greater proportion. The entire throat, tonsils, fauces, soft palate, pharynx, and naso-pharynx, covered over rapidly with a thick, tenacious diphtheritic membrane, becoming quite offensive, and impeding respiration to such a degree as nearly to cause suffocation. It was only by the continued use of the probang, and an arrangement like a bottle-washer, a stiff spiral brush on a long wire handle—the brush being thrust in after opening the mouth and moved back and forth quickly as in cleansing the tube after operation for tracheotomy—that breathing could be kept up. The child soon became comatose, and continued in a drowsy condition most of the time, which aided the operation of cleansing the throat, and it was not until

the 6th of May, that any idea was entertained that he would survive, but to the surprise of all, he commenced to mend—the membrane began to disappear from the throat, allowing him to breathe through the mouth—that in the naso-pharynx remained longer, and obstructed nasal respiration for some time after.

As with most children during convalescence from protracted illness, he became very fretful and hard to manage, and further treatment, especially applications to the throat, was almost impossible, and had to be suspended for fear that, in his struggles, an accident might occur. He went on, however, seemingly well, until May the 11th; I visited him at 7 P.M. of that day as usual, and left him apparently doing well. In half an hour after I had seen him, I was apprised by a messenger that he sat up in bed to be fed, and while in the act suddenly fell back and expired.

I considered the remote cause of death in this case to be asthenia, and its immediate cause heart failure—failure to carry on its intrinsic work in the erect position. It is generally conceived that such cases terminate by death beginning at the heart, sometimes from paralysis, and sometimes by thrombus. I cannot say whether or not the emotional element had any immediate relation with the final termination in this case.

S. J. RADCLIFFE, M.D.
1211 F. STREET, N. W., WASHINGTON, D. C.

NEWS ITEMS.

AN INTERNATIONAL CONFERENCE.—In his annual report, Surgeon-General Wales recommends that the medical departments of the great naval powers be invited to a general conference, with a view to the adoption of a uniform nomenclature, classification, and tabulation of diseases, and of a system of interchange of periodical reports of the movement of disease, from which international reports of sanitary conditions all over the world may be published at stated intervals.

THE NEW SEWAGE SYSTEM OF BOSTON.—The great sewage system which has been in process of construction in Boston for several years is now completed, and last Tuesday its pumps were set in motion. This system, which constitutes one of the greatest engineering feats of the age, and is pronounced even superior to that of Paris, has for its object in brief, the interception of sewage as it flows in the existing sewers, and its conveyance to a point where it may be discharged with safety to the public health, and with the smallest possible injury to other interests.

For this purpose a large sewer has been built along the marginal streets of the city, intercepting all existing drainage by means of numerous branches, and finally terminating in a pumping station at Old Harbor Point. Here four engines, with a daily pumping capacity of 25,000,000 gallons, are erected together, with screens for the stopping of large objects. The outfall sewer, which extends thence to a reservoir on Moon Island, consists of three sections: first a tank, second a tunnel under Dorchester Bay, and third a large land sewer. At Moon Island, where the sewage is discharged into deep water, there is a large reservoir covering several acres. It has four compartments, and will hold nearly 25,000,000 gallons. Its design is such that it can be conveniently enlarged at any time to double this capacity to meet the needs of the increased growth of the city. A large number of gates are provided for admitting and discharging sewages, which are to be opened by hydraulic pressure, as are those at the pumping station.

The last link in the extensive chain of works is the outlet section, which contains four sewers, so arranged as to connect with the outfall sewer in receiving the discharge from the reservoirs and carrying it out to the tidal current at the end of Moon Island. The entire cost of this system has been $4,544,272.89.

ARCHIVES OF MEDICINE.—It is announced that the *Archives of Medicine* has discontinued publication after a satisfactory existence of five years. This suspension is rendered necessary not from lack of support by contributors or subscribers, but through a combination of extraneous circumstances.

NEW MEDICAL JOURNAL.—*The Archives of Pediatrics*, a monthly journal devoted to the diseases of infants and children, edited by DR. WILLIAM PERRY WATSON, of Jersey City, has recently issued its first number, containing sixty-four pages of reading matter. The collaborators number thirteen; of these, nine are selected from the principal medical centres of the United States, one from Canada, and three from England.

BANQUET TO CHARCOT.—The old pupils of M. Charcot tendered him a banquet on December 5, on the occasion of his nomination to the Institute. Congratulary telegrams were sent by those unable to attend.

HEALTH IN MICHIGAN.—Reports to the State Board of Health, for the week ending December 22, 1883, indicate that influenza, remittent fever, rheumatism, consumption, and bronchitis have increased, and that diarrhœa, pneumonia, measles, typhoid fever, inflammation of kidney, and scarlet fever, have decreased in area of prevalence.

Including reports by regular observers and others, diphtheria was reported present during the week ending December 22, and since, at eight places; scarlet fever at fourteen places; and measles at three places.

OBITUARY RECORD.—Died, in Washington, D. C., on Sunday December 30th, in the sixty-eighth year of his age, JOHNSON ELIOT, M.D.

From 1828 to 1839 Dr. Eliot was engaged in the drug business; in the latter year he began to study medicine under Dr. Thos. Sewall—being at the time Steward in the Naval Hospital. He matriculated at the College of Physicians and Surgeons of New York, and received his degree of Doctor in Medicine in 1842. Immediately upon his graduation he was appointed Demonstrator of Anatomy in the College, and in 1850 Professor of Anatomy in Georgetown University. In 1861 he accepted the Chair of Surgery in this institution, retaining it until 1876, when he was made Emeritus Professor of Surgery and Professor of Clinical Surgery. In 1869 he received from Georgetown University the honorary degree of A.M., and in 1872 that of Doctor of Pharmacy.

NOTES AND QUERIES.

A STATEMENT.

To the Editor of THE MEDICAL NEWS.

SIR: Will you kindly publish the following statement, made necessary because of my receiving letters from England and this country calling my attention to the liberty taken with my name.

Dr. H. H. Kane, of New York, has made use of my name in an advertisement of a secret means of treating the opium habit; and afterwards, in a pamphlet labelled "De Quincy Opium Home Cure," containing printed fac-similes of letters received by him years ago from a number of physicians, and among them a letter of mine. In obedience to a protest on my part, Dr. Kane has removed my name from his advertisement, and my letter from his pamphlet.

Yours truly,

S. WEIR MITCHELL, M.D.

December 22, 1883.

NERVOUS ACCIDENTS CAUSED BY THE MATERIALS OF PHOTOGRAPHY.

To the Editor of THE MEDICAL NEWS.

SIR: Permit me to direct your attention to the statement made in the article "Nervous Accidents Caused by the Materials of Photography," in your issue of December 15th, that the vapor of prussic acid is formed by "the decomposition of cyanide of potassium by bichromate of potassium."

It is well known that the vapor of prussic acid is given off by cyanide of potassium at ordinary temperatures even without the addition of an acid or acid salt. If these be added, the amount of vapor given off is, of course, increased; but in photographic operations, the two substances named are *never, under any circumstances, mixed together*, as might be inferred from the article.

Again, reference is made to the deoxygenation of the air of the operating room to an injurious extent by the affinity of the developing solution of pyrogallic acid mixed with an alkali (ammonia) for oxygen. This is absolutely impossible; the amounts used being so small that a lighted gas-burner (even if turned down low), or an assistant, would consume far more oxygen, and throw off perceptible quantities of carbonic acid. Sixteen grains of dry pyrogallic acid mixed with a drachm of strong ammonia would develop a plate much larger than the average of those used in photographic galleries, and although some oxygen is undoubtedly absorbed, it is not at all dangerous to health.

Thirdly, the mention of ether is made in connection with the gelatino-bromide process, so that it might reasonably be inferred by the non-photographic reader that the former played some part in the latter. This is plainly an oversight, the entire absence of any form of spirituous solvent being well known to all who are conversant with the said process.

Permit me to say, in conclusion, that I concur fully with the general idea expressed in the article as to the necessity of caution in the handling of dangerous chemicals, and the risk run by any one confining himself in the dimly lighted and close dark-room for too long a time.

Very respectfully yours,

ELLERSLIE WALLACE, JR., M.D.

1130 SPRUCE STREET, Dec. 20, 1883.

THE NATURE OF SYPHILIS.

To the Editor of THE MEDICAL NEWS.

SIR: In the review of the excellent work of Bumstead and Taylor on *Venereal Diseases*, fifth edition, in your issue of Dec. 22, 1883, the reviewer says, "In the chapter on the nature of syphilis, there is a somewhat indignant denial of the recently repeated claims of Dr. Otis, that Bumstead and Taylor have adopted his peculiar views as to the nature of the syphilitic virus, and the process of its absorption and distribution through the system."

This appears so much like a question of veracity between the surviving author and myself that I feel impelled to ask the privilege of a statement of my position in this matter in connection with this review. The "recently repeated claims" alluded to may be found in the preface of my book on *Genito-Urinary Diseases and Syphilis* (New York, 1883), page 7, as follows:

"The first authoritative publication which followed *practically* adopted and supported the new views, thus, 'The secretions of syphilitic lesions are found to consist of a serous fluid containing numerous granules or molecules, which are masses of protoplasm or germinal matter, holding the contagious properties of syphilis. *These microscopic bodies are probably taken into the circulation by the lymphatics and conveyed over the body.* . . . . In the secondary period of syphilis, these *cells* are very numerous, and the body may be covered with papules and tubercles *composed of them.* . . . As the disease wanes . . . the cells no longer have the tendency to reproduction which characterizes them in the early stages, but rather degenerate. *Hence we consider the blood and the secretions, in tertiary syphilis, innocuous.*'"

It is scarcely necessary for me to say that these views of the nature and behavior of syphilis, as embodied in the foregoing extract, are *identical* with those presented to the profession by me in 1868, and plainly set forth in my papers before the New York County Medical Society in 1870; also in my book on *Syphilis*, published in 1878, and later in my book on *Genito-Urinary Diseases and Syphilis*, published in 1883.

The denial referred to has not been accompanied by a withdrawal in the new edition (fifth) of the description of the nature of syphilis given at page 443 of the previous edition. It is true that these views are not distinctly credited to me, *as they should have been*, but occur in the body of the text as the views of the authors. In a note on the same page they even disclaim that my views are worthy of consideration.

The fact still remains that they are presented, as above stated, *as the views of Bumstead and Taylor.* Unless, therefore, it can be shown that the views above referred to are *not* those which I first published in 1870, and subsequently reiterated, it must be acknowledged that, by their publication in the work of Bumstead and Taylor, in form as previously stated, they in that way *practically* support my views, as I have claimed, however earnestly and persistently they may strive to ignore my connection with them.

Very truly yours,

F. N. OTIS, M.D.

THE "AMNIONTOME."

To the Editor of THE MEDICAL NEWS.

SIR: Under the head of "New Inventions," in your issue of December 8th, I find a description, and illustration by woodcut, of a new instrument, called by its inventor the "Amniontome." It is claimed by the inventor, also, that there has been a long-felt need in the armamentarium of the obstetrician of a contrivance whereby he could certainly and easily rupture the amniotic membranes when it was desirable to do so, and that now the vacuum had been filled. He states that the finger-nail sometimes fails, and that he has been obliged to resort to such awkward procedures as the introduction of knives and scissors to accomplish the desired end.

Truly, I should say that the introduction of knives and scissors for such purposes is a very awkward procedure, or, in fact, the introduction of any other sharp-pointed instrument for such purpose. Now, if I understand the nature of this "amniontome," it is a sharp-pointed instrument, arranged with a mechanism whereby it can be attached to either index-finger, while the puncturing or pointed portion extends beyond the finger's end a short distance. We are not informed of the length of the instrument; but this matters not. It is intended that this piece of insensible and pointed steel is to precede the sensitive and educated index-finger on its way into the vagina, and to the accomplishment of the desired end—the puncture of the amniotic membranes. I was taught, and have always practised, and believe it always should be practised—not to introduce *any* sharp instrument into the vagina unguided by the sense of sight or touch.

It is possible that this little "corn husker" may be introduced without puncturing any tissue not intended to be punctured; but the risk of so doing is always present before the operator. It violates the rule which I have just stated, and is, therefore, reprehensible. I should say that the introduction of a knife or a pair of scissors along the palmar surface of the already introduced index-finger is a far more rational procedure. In this case you know where your instrument is going, but in the other the instrument precedes the sensitive finger.

Let me state a more rational procedure than to use *any* sharp-pointed instrument; for such sharp instrument is not required to accomplish the end under discussion. Let us suppose that the obstetrician is sitting to the right of his patient, and, therefore, using his right index-finger for vaginal examinations, etc. Now introduce the right index until it comes in contact with the bulging and resistant membranes; then carry the ordinary grooved director of the pocket-case, held in the left hand, *over* the right thigh of patient, and introduce its blunt point along the palmar surface of the introduced finger until it also comes in contact with the sac of waters. When the next uterine contraction supervenes, by gentle pressure it readily penetrates the membranes, and the desired end is reached without the least particle of hazard to the mother's tissues. Some other blunt instrument would answer as well as the director mentioned, but this is usually at hand. Sharp-pointed instruments are never required for this simple operation, and should not be used unless others are not at command, and then only when guided by the educated index.

Respectfully,

A. C. SIMONTON, M.D.

DES MOINES, IOWA.